“A CLINIC-PATHOLOGICAL PROSPECTIVE STUDY OF OPERABLE CARCINOMA BREAST IN OUR INSTITUTION”

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This is to certify that this dissertation tilted **"A CLINIC-PATHOLOGICAL PROSPECTIVE STUDY OF OPERABLE CARCINOMA BREAST IN OUR INSTITUTION"** is bonafide record of work done by **DR M. AHILA MUTHUSELVI,** during the period of her post graduate study from May 2011 – April 2014 under guidance and supervision in the department of general surgery, Kilpauk medical college, Chennai, in partial fulfillment of the requirement for **M.S. General surgery** degree Examination of the Tamilnadu Dr MGR Medical University to be held in April 2014.

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DECLARATION

I, **DR.M. AHILA MUTHUSELVI** hereby declare that this dissertation **"A CLINIC-PATHOLOGICAL PROSPECTIVE STUDY OF OPERABLE CARCINOMA BREAST IN OUR INSTITUTION"** is a bonafide, genuine research work done by me under the guidance of PROF. DR. KANNAN, PROFESSOR OF THE DEPARTMENT OF GENERAL SURGERY, KILPAUK MEDICAL COLLEGE, Chennai

Place: Chennai Signature of the candidate

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ABBREVATION

BI-RADS	-	Breast Imaging Reporting and data systemic
BCT	-	Breast Conservation Surgery
FNAC	-	Fine Needle Aspiration Cytology
DCIS	-	Ductal carcinoma Insitu
LCIS	-	Lobular Carcinoma Insitu
MRM	-	Modified Radical Mastectomy
MRI	-	Magnetic Resonance Imaging
PET	-	Positron Emission Tomography
RT	-	Radiotherapy
SLNB	-	Sentinel Lymph Node Biopsy
USG	-	Ultrasound
HT	-	Hormonal therapy
DM	-	Diabetes Mellitus
HT	-	Hypertension

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ABSTRACT

Introduction

Cancer breast is the leading cause of site specific cancer related death next to cancer cervix for women aged 20-59 years. Early diagnosis and treatment will reduce the morbidity and mortality of the disease and thus it prolongs the survival of the patient .The patient clinically presented in the late stage of disease , due to the lack of knowledge and the ignorance of the patient.

Now due to the routine screening mammography in women done after 50 years, it reduces the mortality 0f about 33%. By self breast examination 50-75 % of cancer can be detected easily. I made an attempt to study about **operable carcinoma breast** in various aspects.

Aim and objectives

To study the various type of clinical and pathological patterns of presentation of operable carcinoma breast in Government Royapettah Hospital . To decide the institutional treatment protocol and to minimize the breast mutilation surgery.

Key Words:

Operable carcinoma breast, self breast examination, breast conservation surgery, sentinel node biopsy, multy modality management.

Methods and Materials

A prospective study conducted in 50 patient ,those are all admitted in Government Royapettah hospital from January 2013 to November 2013.Detailed history ,clinical examination, investigation done to arrive a final diagnosis and plan treatment according to the stage.

Results

50 patients of patients were studied during the study period , the average age of occurrence of operable carcinoma breast is 48.54 years. One patient having positive family history. Mostly occurring in patient with early menarche. Lump (100%) is the most commonest presentation. 98% of the studied patient having IDL as HPE report . In my study population 56 % of them in stage II disease.

Conclusion

The incidence of operable carcinoma breast is more common among middle aged groups. The most commonest presenting compliant is lump and most commonest histopathological type is infiltrating ductal carcinoma. Multimodality modality manage is the optimum treatment adopted.

Routine screening mammography and by the health awareness programme carcinoma breast , now-a days , detected at an earlier st age.

INTRODUCTION

The commonest cause of death in adult women is carcinoma breast and it is the most commonest leading cause of death among aged 20-59 years. High socio economic status will increase the incidence of carcinoma breast. .Now it is reported in younger age group also.

Early diagnosis and treatment will decrease the morbidity and mortality of the disease significantly . The treatment depends upon the patient at which stage they are presenting to the health services. Screening mammography above 50 years , if used as a routine will reduce the mortality from cancer by 33%. If they are diagnosed early, the breast conservation surgery can be planned. If the patient present at the advanced stage, they have to be treated aggressively having severe complication after treatment. The breast cancer management requires a multi modality approach, which includes surgery ,radiotherapy, chemotherapy.

In this study an attempt to study those patient who are eligible for surgery ie. **Operable carcinoma breast**. It includes both **early breast cancer** patient **(stage 1, stage 11A, 11B)** and **Operable LABC patients (111A , Stage 111B**) either directly taken for surgery or after neoadjuvant they are eligible for surgery.

In this dissertation an attempt is made to study the various risk factors, natural history of disease, clinical features, stage of presentation, correlation of FNAC with post operative histopathological report ,hormonal receptor status and management o f **opesrable carcinoma breast**.

AIM AND OBJECTIVES

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To decide the relavent institutional treatment protocol and to minimize the breast mutilation surgery.

REVIEW OF LITERATURE

HISTROY

The earliest known document to refer to breast cancer is the smith surgical papyrus (3000- 2500 BC) . The author concludes that " There is no treatment " ,in reference to this cancer. Radical Mastectomy surgery was reported by Halsted and Meyer ,in 1894 they demonstrated that good loco regional cure is achieved.

Modified Radical Mastectomy was advocated by Patey and Dayson in 1948, for the management of advanced operable breast cancer.

Madden advocated a Modified Radical mastectomy , preservation of pectoralis major and minor muscle . And this approach prevents the clearance of (level 111) apical axillary lymph nodes.

There was a transition from Halsted Radical Mastectomy to Modified Radical Mastectomy and that was used as a most frequently used procedure since 1980.

To control the loco regional disease , integration of surgery ,RT , CT was made since 1970.

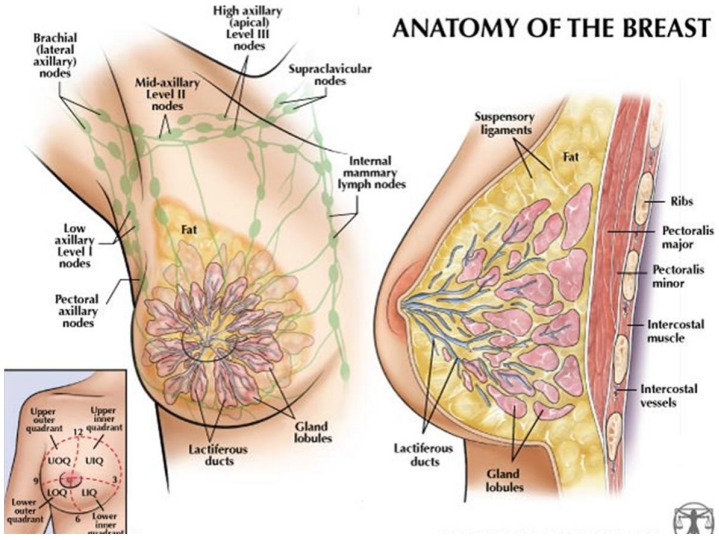
ANATOMY OF BREAST

GROSS

Breast forms an important secondary sexual organ in female and it provides nutrition to the new born.

SITUATION

The breast rest over the superficial fascia of pectoral region , and axillary tail , which is a small extension pierces the deep fascia and it lies in the axilla..



EXTEND

Vertically - 2 nd to 4 th rib .

Horizontally-lateral border of sternum to the mid axillary line.

DEEP RELATION

It rest on the deep fascia covering the pectoralis major. Deep to the fascia are the three muscles, namely the pectoralis major , serratus anterior , external oblique muscle of abdomen. The loose areola tissue , which lies between the breast and deep fascia called “sub mammary space “. This allows the breast to move freely over the fascia.

STRUCTURE OF THE BREAST

It is divided into the skin, the parenchyma and the stroma. The skin is further divided into nipple and areola.

NIPPLE

It is a conical projection just below the centre of the breast at the level of 5^{th} ICS. It is rich in nerve supply and many sensory end organ terminates at the end of nerve fibres.

AREOLA

Circular pigmented area of the skin surrounding the nipple is called areola . This region is having a modified sebaceous gland ,which is enlarged during pregnancy and lactation enlarged , to form raised tubercle of Montgomery.

PARENCHYMA

It is made up of glandular tissue , which secretes milk. The gland consist of 15-20 lobes , each lobe is a cluster of alveoli, and it is drained by lactiferous duct. The lactiferous duct coming towards the nipple and open it near its terminal, it dilates to form lactiferous sinus.

THE STROMA

The supporting frame work was on the gland is stroma. It is partly made up of fibrous and fatty tissue .The skin and the gland is anchored to the pectoral fascia by the fibrous tissue in the form of septa , known as the suspensory ligament of coopers. The main bulk is formed by the fatty tissue , distributed all over breast , except behind the nipple areola complex.

Axillary tail of spence

It is the prolongation of outer part of the gland . Through foramen of larger, an opening in the deep fascia ,it extent into the axilla.

BLOOD SUPPLY

ARTERIAL SUPPLY

The gland is highly vascular , except in its posterior part which is a vascular.

Axillary artery supplies the gland through its branches like superior thoracic, acromio thoracic and lateral thoracic artery.

Antero medial part of gland supplied by internal thoracic artery through its perforating branches.

Antero lateral part of gland supplied by 2^{nd} to 4^{th} intercostals artery through its perforating branches. . The 2^{nd} intercostals perforators is the largest one among the rest.

The skin is supplied medially by anterior intercostal arteries , laterally by lateral thoracic artery a branch of axillary artery and lateral cutaneous branches of posterior intercostals arteries.

VENOUS DRAINAGE

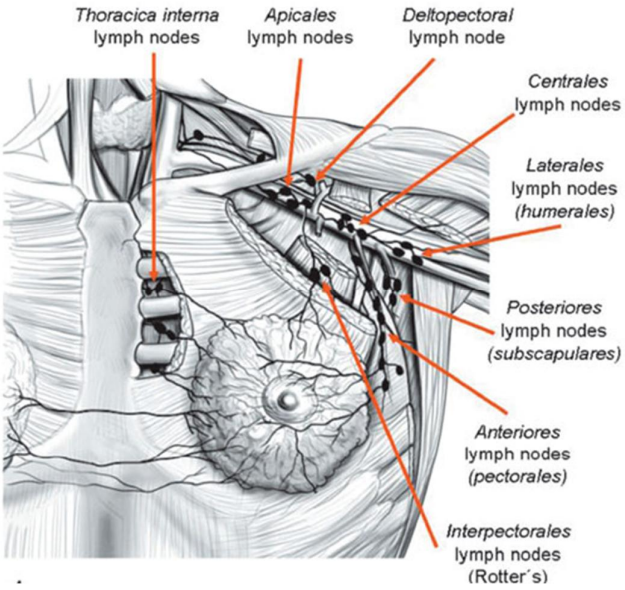
The venous drainage of the breast follows the corresponding arteries. They all converge towards the nipple to form a anastomotic venous circle , from there it forms the superficial and deep veins .The posterior intercostal vein drains the breast communicate with vertebral veins , by this the metastasis reach the bones without lung involvement.

NERVE SUPPLY

Anterior and lateral cutaneous of the 4th to 6th intercostals nerve gives the sensory and sympathetic supply to the breast. Ovarian and Hypophyseal hormones controls the secretory activity of breast .

LYMPHATIC DRAINAGE OF BREAST

The principle nodal drainage of the breast are the axillary and internal mammary group of lymph node.



75% of the lymphatic drains into the Axillary lymph nodes. They are pectoral, subscapular, lateral , central and apical nodes.

25% of the lymphatic drainage through internal mammary nodes.

Other nodes draining are Supra clavicular nodes, Cephlic nodes, posterior nodes in front of head of ribs, sub diaphragmatic and subperiosteal lymph plexus.

The Subareolar plexus of sappy , a plexus of lymph vessels present deep to areola receives the lymphatic drainage from parenchyma of breast , drains into anterior axillary nodes.

Levels of Lymph nodes

The levels are divided into 3 levels depending upon the relation to the pectoralis minor smuscle.

Level I nodes-below and lateral to pectoralis minor muscle .

Level II nodes-deep to pectoralis minor, interpectoral nodes called Rotters nodes.

Level III nodes –above and medial to pectoralis minor .

HISTOLOGY OF BREAST

The mature breast consist of 3 type of principle tissue. They are glandular epithelium ,fibrous stroma and supporting tissue and the adipose tissue .The glandular system consist of branching system of ducts , end in terminal ductules or acini. These acini are the milk forming glands in the lactating breast called as lobule.

The ductal system is lined by columnar epithelium surrounded by myoepithelial cells, a basement membrane and surrounding elastic fibers. The basement membrane layer forms the important boundary in differenciating the in situ from invasive carcinoma. If the basement membrane is intact called as carcinoma in situ. Involvement of basement membrane by malignant cells and invading the stroma called Invasive breast carcinoma.

CARCINOMA BREAST

RISK FACTOR

Age

Carcinoma breast is very rare below the age of 20 years, after that the incidence steadily increases, and by the age of 90 years 20% of womens affected.

Sex

Less than 0.5% of males are affected by carcinoma breast.

Family history

There is increase in likelyhood of patients with strong family histroy of carcinoma breast, ovarian and colonic **cancer.**

Genetic Factor

It accounts for 5-10% of all breast cancer cases. 40% other cases due to mutation in BRCA 1 and BRCA 2 ,and others are HER2 mutation and P 53 mutation . Genetic counselling and DNA testing can identify the high risk cases .80% of chance of developing breast cancer.

Diet

There is increased risk of developing carcinoma breast with diet less in phytoestrogen and increase in alcohol intake.

Menstural Cycle

Early menarche and late child birth associated with increased risk of carcinoma breast . Pregnancy at early age and multiple pregnancy having a protective role in carcinoma breast .

Endocrine

Endogenous hormones

Increased risk of oestrogen increased risk of carcinoma breast ,so common in nulliparous women.

Exogenous hormones

HRT- long term use of oestrogen increases the risk of carcinoma breast. Diethylstilbesterol usage increases the risk of carcinoma breast.

Other risk factor-Radiation exposure, obesity.

Histological risk factor

Proliferative Breast disease, atypical ductal hyperplasia, atypical lobule hyperplasia, lobular carcinoma in situ.

Pathology

Carcinoma arising from milk duct called ductal carcinoma, and from lobule called lobular carcinoma. It is divided into in situ or invasive carcinoma, depending upon the basement membrane involvement. Depending upon the degree of differenciation it is divided into 3 grades. Well differenciated- resembling like normal breast tissue , moderatively differenciated and poorly differenciated.

Current nomenclature

Ductal carcinoma is the most commonest one, accounts for 50-70% of invasive breast cancer. But lobular carcinoma accounts for 10% of breast cancer. Subtype of classical type of lobular carcinoma carries better

prognosis than pleomorphic type. Invasive lobular carcinoma is commonly bilateral and multifocal.

Mucinous or colloid tumours which produces abundant of mucin accounts for 2-3% of cases. The Medullary carcinoma with solid sheets of large cells and with marked lymphocytic reaction accounts for 5% of breast cancer.

Inflammatory carcinoma is a rare variety, highly aggressive cancer, they present as a painful ,swollen breast , which is warm with cutaneous oedema. It involves at least 1/3 rd of breast . The cutaneous oedema is due to blockage of subdermal lymphatics with carcinoma cells. It mimics a breast abcess. A breast biopsy will confirm the diagnosis and shows undiffenciated cancer cells .

In situ cancer is a non invasive cancer, in that the basement membrane is intact . Nowadays ,due to advent of mammography screening , 20% of insitu carcinoma can be detected easily. Insitu carcinoma may be ductal or lobular carcinoma. Insitu carcinoma may be multifocal and bilateral ,20% of cases will develop invasive cancers.

DCIS ,classified by VanNuy's system include the patients age, type of DCIS , presence of microcalcification , size of the disease and extend of resected margin .Patient with low grade disease , complete excision of

tumour is necessary , no further treatment needed. Patient with high grade , need radiotherapy after excision. Though it is a overt treatment, mastectomy is curative .

If the treatment is stained with estrogen and progesterone ,now it is done as a routine one and this presence indicates the use of adjuvant hormonal theraphy with tamoxifen .Tumours stained with HER2 receptors , patient was treated with monoclonal antibodies , commonly used is trastuzumab. The pathologist took part in deciding which adjuvant therapies will be appropriate.

SPREAD OF DISEASE

1. Local spread
2. Lymphatic spread
3. Blood spread

Local spread

By this method , the tumour invades the other part of breast .It also invade skin , pectoralis major and the chest wall. Involvement into the skin causes dimpling of the skin, invasion of coopers ligament results in tethering of the skin. Peau d' orange appears as a result of dermal lymphatic invasion by tumour cells.

Deeply it involves pectoralis major , chest wall and serratus anterior muscle.

Lymphatic spread

Lymphatic metastasis to axillary lymph node and the internal mammary lymph nodes. By tumour emboli and permeation the spread will occurs. The group of lymph node involvement depends upon the site of tumour in breast tissue .From axillary lymph nodes it spreads to supraclavicular lymph nodes by retrograde manner.the incidence of axillary nodal involvement ,in relation with size of the tumour are the following < 2cm -, 30%, 2-5 cm-35% and > 5 cm -50%.

The supraclavicular node involvement indicates the disease is very extensive and having poor prognosis .By sub peritoneal lymphatic plexes it spreads to liver.

Blood spread

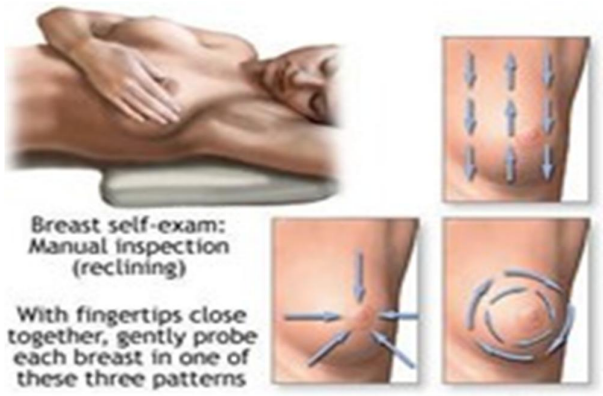
Spine is the most commonest site of metastasis from breast cancer, through batson plexes of vein.The lumbar vertebra , femur, thoracic vertebra , ribs and skull are the following occurs in order, and these deposits are osteolytic. It also spreads to liver, lung, pleura, adrenals,ovaries ,brain and skeletal system. Through transcoelomic spread it spreads to ovaries .(Krukenberg's tumour)

Examination of breast

Self breast examination

Above 25 years should perform self breast examination.

After the completion of menstruation. Should be done in lying down position with a pillow under the shoulder.



Age, socioeconomic status

History

- Lump, .pain ,nipple discharge ,nipple retraction
- History related to metastasis-bone pain ,dyspnoea, cough with expectoration, jaundice.
- Past history-medical illness, previous surgery ,drugs ,OCP
- Menstrual and Marital history –age at menarche, age at first child birth, parity, breast feeding, age at menopause

Carcinoma breast with skin involvement

Examination of axillary nodes

- Family history-any breast, ovarian and uterine cancers

Local Examination of affected side

1. Patient sitting ,Arm by the sides of body
2. Arms raised above the head
3. Leaning forward position
4. Lying position
5. Arms over the hips

Inspection

- Both breast –symmetry, shape ,size ,position, any mass
- Nipple areolar complex-level of nipple,discharge ,retraction, ulceration
- Skin of breast-dilated veins, dimple, puckering, peau d' orange, retraction, nodule, ulceration, fungation peau d' orange-oedema of skin and deepening of the mouth of sweat gland , hair follicles,due to obstruction of subdermal lymphatics.

Arm and thorax-Oedema ,nodule

- Cancer en cuirase-thickened skin and multiple cancerous nodules like a coat of armour in arm and thorax
- Axilla and supraclavicular fossa-fullness
- Leaning forwards-fixity of chest wall

Palpation

- Using the palmar aspect of hand with flat hand
- Four quadrants , axillary tail
- Local rise in temperature ,tenderness
- Lump- number, site, size, shape, surface, margins ,consistency, Fixity to skin, intrinsic mobility ,fixity to muscle, chest wall
- Nipple –any tumour deep to nipple ,nipple discharge
- Examination of lymph nodes in axilla
- Anterior ,central , apical ,posterior and lateral groups
- Supraclavicular nodes

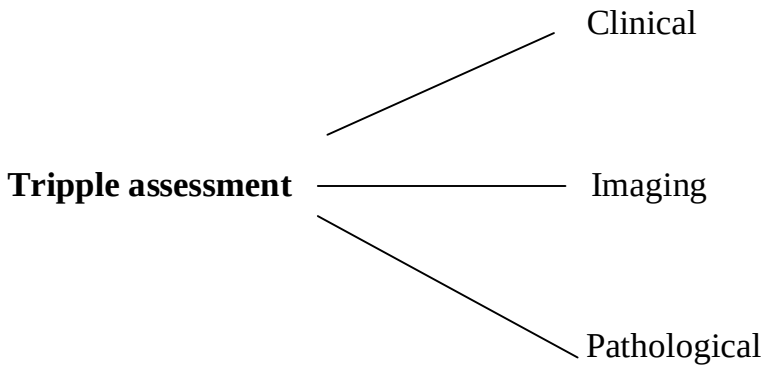
Percussion

- Over the sternum for internal mammary nodes
- Examination of other breast, opposite axilla , supraclavicular fossa
- Examination of other system-Cardiovascular system
- Respiratory system-Pleural effusion
- Abdomen –Liver metastasis
- Skull, pelvis , vertebra,
- Pelvic and per rectal examination

Investigation

- Routine Investigations
- Urine –albumin, sugar , deposits
- Blood-Urea , sugar ,creatinine
- Blood-Hemoglobin ,complete hemogram
- Blood grouping and typing
- X ray chest
- ECG in all leads
- Liver Function test

II.Specific Investigations



- Clinical - Age
  Examination
- Imaging - USG Breast
  Mammography
- Pathological - FNAC
  Tru-cut biopsy

99.9% of cases detected by this method confidently

USG of breast

- Safe non invasive method of investigation
- It is one of the essential part in triple assessment
- Used in young women < 40yrs with dense breast
- It differentiates solid and cystic swelling upto 0.5 cm lump
- Features of Malignancy-irregular margins, non compressibility, irregular posterior Shadowing ,irregular internal echoes, smooth margins with acoustic enhancement

MAMMOGRAPHY

- Plain x ray of soft tissue of breast
- Low voltage , high amplitude x rays
- Sensitivity increases as the age advances , with less dense breast >40yrs
- Two views-Craniocaudal , Mediolateral oblique view
- it provides true positive rate of 90%

Indication

- As a screening method > 50 yrs
- >40 yrs with high risk factors, with suspicious breast lump
- to find the multicentricity of affected side, if planned for BCS
- Opposide side for routine screening
- Mammograhic guided biopsy
- Follow up period ,after surgery

Features suggestive of cancer

- Solid mass effect with or with out stellate features
- Asymmetric thickening of breast, architectural distortion
- Clustered microcalcification
- Fine and stippled calcification, speculation.

Grading in Mammography

BI-RADS (Breast Imaging Reporting and Data System)

Grade I –Negative

Grade II-Benign lesion

Grade III-Probably benign lesion

Grade IV-Suspicious of malignancy

Grade V- Highly suggestive of malignancy

Grade VI- Known carcinoma

FINE NEEDLE ASPIRATION CYTOLOGY

- Routinely used in investigation of breast lump
- A 22 gauge needle is used
- High sensitivity 98% ,specificity 98% and positive predictive value 98
- Simple, quick ,Safe, less traumatic less cost effective

FNAC Scoring

i. C0 – No epithelial cells

ii. C1 –Scanty epithelial cells

iii. C2 –Benign cells

iv. C3 – Atypical cells

v. C4 – Suspicious of malignancy

vi . C5 –Malignant cells

True Cut Biopsy

- allows a definitive preoperative diagnosis
- differentiate between ductal carcinoma insitu from invasive carcinoma
- it gives us about the receptor status
- it should be done before neoadjuvant therapy

MRI Breast

- useful to detect the recurrence
- used in patient with implants
- useful in lobular carcinoma to assess the multifocality and multicentricity
- screening tool in high risk women.
- no radiation exposure

FOR Metastatic work up

X ray chest

- easy method to detect the lung metastasis
- it is visible only it reaches 2cm size

Bone X-ray

X-ray of spine ,end of long bones (femur , humerus) and skull osteolytic type of metastasis

USG abdomen- for liver metastasis , ascitis , krukenberg tumour

Bone scan – more accurate in detecting bony metastasis

PET Scan-useful in recurrence cases

Staging of carcinoma breast

TNM Staging

T staging of the tumour

TX	Primary tumour cannot be assessed
TO	No evidence of primary tumour
Tis	Carcinoma insitu
Tis(DCIS)	Ductal carcinoma in situ
Tis (LCIS)	Lobular carcinoma insitu
Tis(pagets)	Paget disease of nipple with no tumour
T1	Tumour 2cm or less in greatest dimension
T1mic	Microinvasion 0.1cm or less in greatest dimension
T1a	Tumour more then 0.1cm but not more than 0.5cm in greatest dimension
T1b	Tumour more than 0.5cm but not more than 1cm in greatest dimension
T1c	Tumour more than 1cm but not more than 2cm in greatest dimension
T2	Tumour more than 2cm but not more than 5cm in greatest dimension
T3	Tumour more than 5cm in greatest dimension
T4	Tumour of any size with direct extension to (a) chest wall or (b) skin
T4a	Extension to chest wall , not including pectoralis muscle
T4b	Edema (including Peaud' orange), or ulceration of the skin of the breast , satellite skin nodules confined to the same breast
T4c	Both T4a and T4b
T4d	Inflammatory carcinoma

Regional lymph node staging

NX	Regional lymph nodes cannot be assessed (eg .previously removed)
NO	No regional lymph node metastasis
N1	Metastasis to movable ipsilateral axillary lymph nodes (s)
N2	Metastasis in ipsilateral axillary lymph nodes fixed or matted , or in clinically apparent ipsilateral internal mammary nodes in the absence of clinically evident axillary lymph node metastasis
N2a	Metastasis in ipsilateral axillary lymph nodes fixed to one another (matted) or to other structures
N2b	Metastasis only in clinically apparent ipsilateral internal mammary nodes and in the absence of clinically evident axillary lymph node metastasis
N3	Metastasis in ipsilateral infraclavicular lymph node(s) with or without axillary lymph node involvement , or in clinically apparent ipsilateral internal mammary lymph nodes(s) and in the presence of clinically evident axillary lymph node metastasis ; or metastasis in ipsilateral supraclavicular lymph node(s) with or without axillary or internal mammary lymph node involvement
N3a	Metastasis in ipsilateral infraclavicular lymph node(s)
N3b	Metastasis in ipsilateral internal mammary lymph node (s) and axillary lymph node(s)
N3c	Metastasis in ipsilateral supraclavicular lymph node(s)

Distant Metastasis

MX	Distant metastasis cannot be assessed
MO	No distant metastasis
M1	Distant metastasis

TNM Stage grouping

Stage 0	Tis	NO	MO
Stage 1	T1	NO	MO
Stage11A	TO	N1	MO
	T1	N1	MO
	T2	NO	MO
Stage11B	T2	NO	MO
	T3	NO	MO
Stage 111A	TO	N2	MO
	T1	N2	MO
	T2	N2	MO
	T3	N1	MO
	T3	N2	MO
Stage 111B	T4	NO	MO
	T4	N1	MO
	T4	N2	MO
Stage 111c	Any T	N3	MO
Stage1V	Any T	Any N	M1

The Manchester system(1940)

Stage 1

The Tumour is confined to breast tissue. skin involvement is less than the size of the tumour. NO lymph node involvement.

Stage 11

Stage 1 with with axillary lymph nodes which are mobile.

Stage 111

Tumour extends beyond the breast tissue , skin involvement is more than the size of the tumor or ulceration .Tumour fixed to underlying structure.

Stage 1V:

Tumour involving the Chest wall , “cancer-en-cuirase”, axillary nodes are fixed, supraclavicular nodal involvement,inflammatory carcinoma breast satellite nodules or distant metastasis .

Treatment of Carcinoma Breast

The main aim of treatment is to

1. To reduce the chance of local recurrence
2. To reduce the chance of metastasis.

It needs a multimodality management.It depends upon the stage of disease.In this dissertation we are dealing about operable carcinoma breast.

Operable breast cancer include early breast cancer and operable locally advanced breast cancer.

EARLY BREAST CARCINOMA-STAGE 1, STAGE 11A&11B

Aims of the treatment

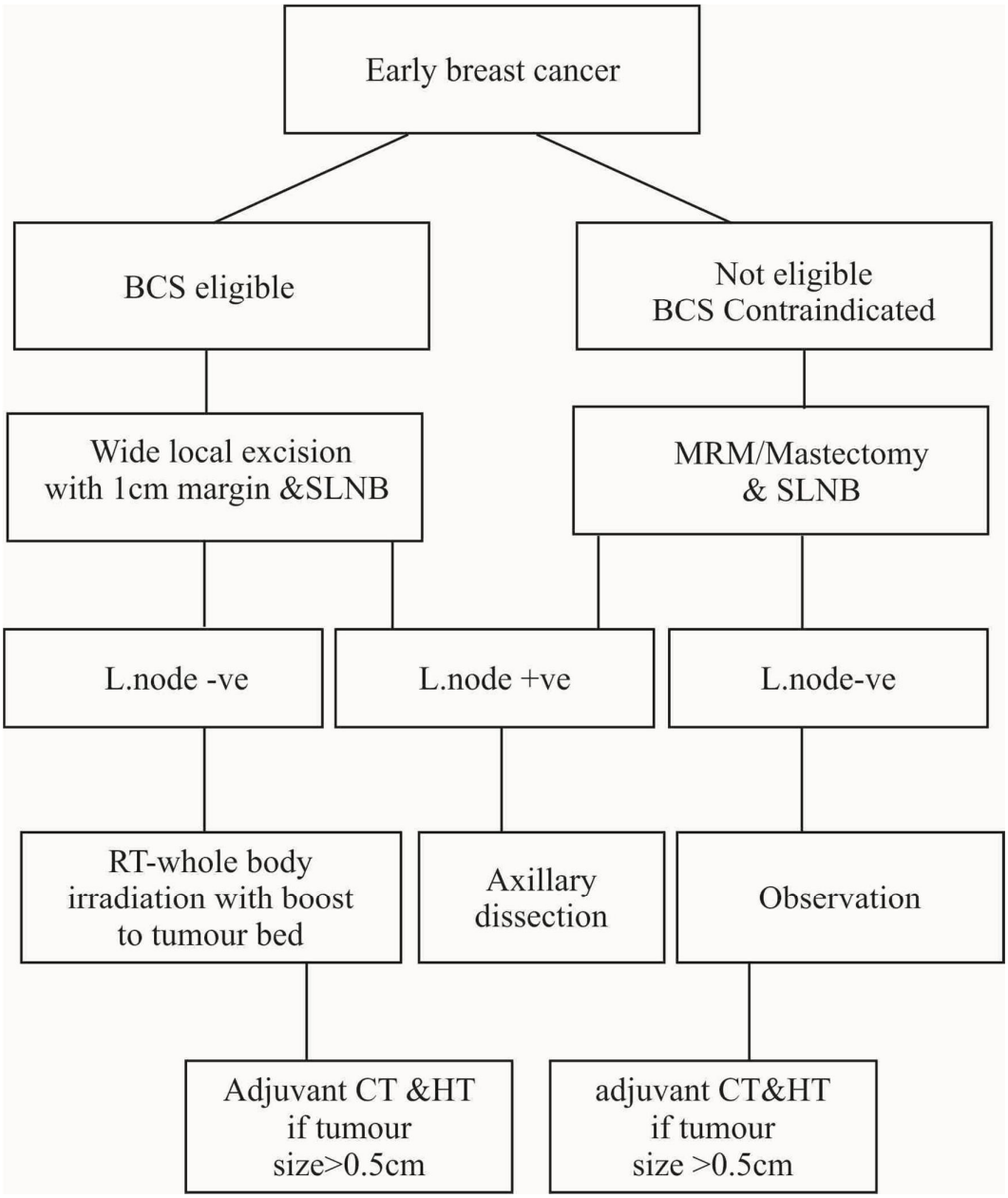
1	to cure the disease but recurrence is common later
2	local disease control in axilla and breast
3	preserve the function and structure
4	preventing or delaying the development of breast cancer.

It includes surgery with or without radiotherapy for local disease and chemotherapy and hormonal therapy for systemic therapy .

Surgery for early breast cancer:

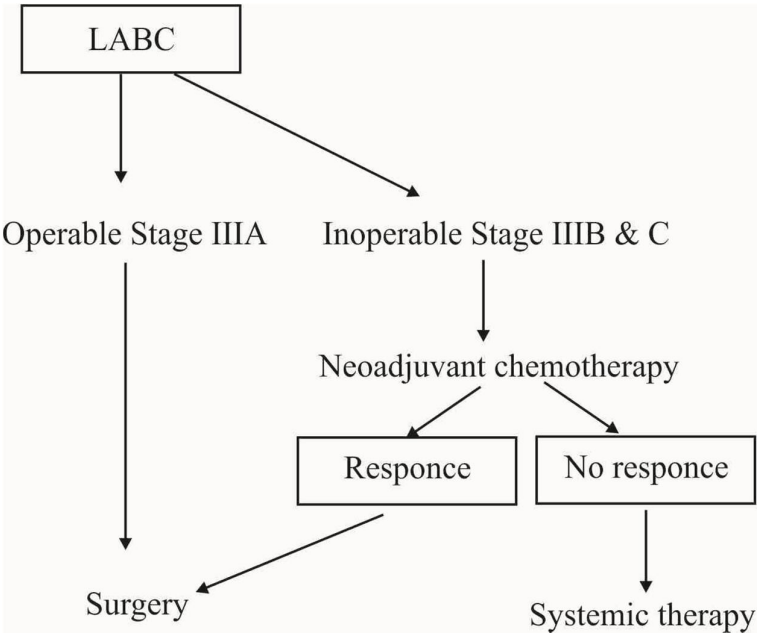
1. BCS ,SLND and radiotherapy to tumour bed

2. MRM with axillary dissection3.total mastectomy ,SLND followed by axillary dissection if positive SLN


Early breast cancer
BCS eligible
Not eligible
BCS Contraindicated
Wide local excision
with 1cm margin &SLNB
MRM/Mastectomy
& SLNB
L.node -ve
L.node +ve
L.node-ve
RT-whole body
irradiation with boost
to tumour bed
Axillary
dissection
Observation
Adjuvant CT &HT
if tumour
size>0.5cm
adjuvant CT&HT
if tumour
size >0.5cm

Locally Advanced Breast Cancer

- It includes stage 111a, 111B &C
- Clinical presentation of LABC from Haagensen and Stout
- Large tumour >5cm
- direct involvement of skin oedma (peau d' orange), chest wall, ulceration
- supraclavicular involvement
- Inflammatory breast cancer
- LABCs are operable most of the time except 25-30% are inoperable



Surgeries for local treatment

1. Breast conservation surgery(BCS)-

It is also called as wide local excision, lumpectomy ,segmental mastectomy quadrantectoy, tylectomy and partial mastectomy.

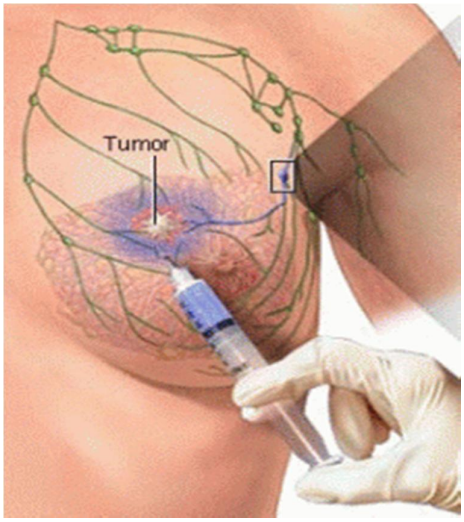
Indication- well differenciated tumour ,mammographically detected tumours, size of the tumour <4cm, No or N1 status patient.

Contraindication-Multicentricity ,pregnancy , persistant positive margins ,central quadrant tumour,poorly differeciated tumour,Tumour size >20-25% of breast volume ,Patient not willing for post operative radiotherapy, collagen vascular disease ,.

Aim is to remove 1cm normal breast tissue along with tumour.Removing the entire segment along with tumour is quadrantectomy. It should be done along with sentinel node biopsy.

Advantage- preserve the skin ,shape ,sensation and psychological effect .

Sentinal node biopsy



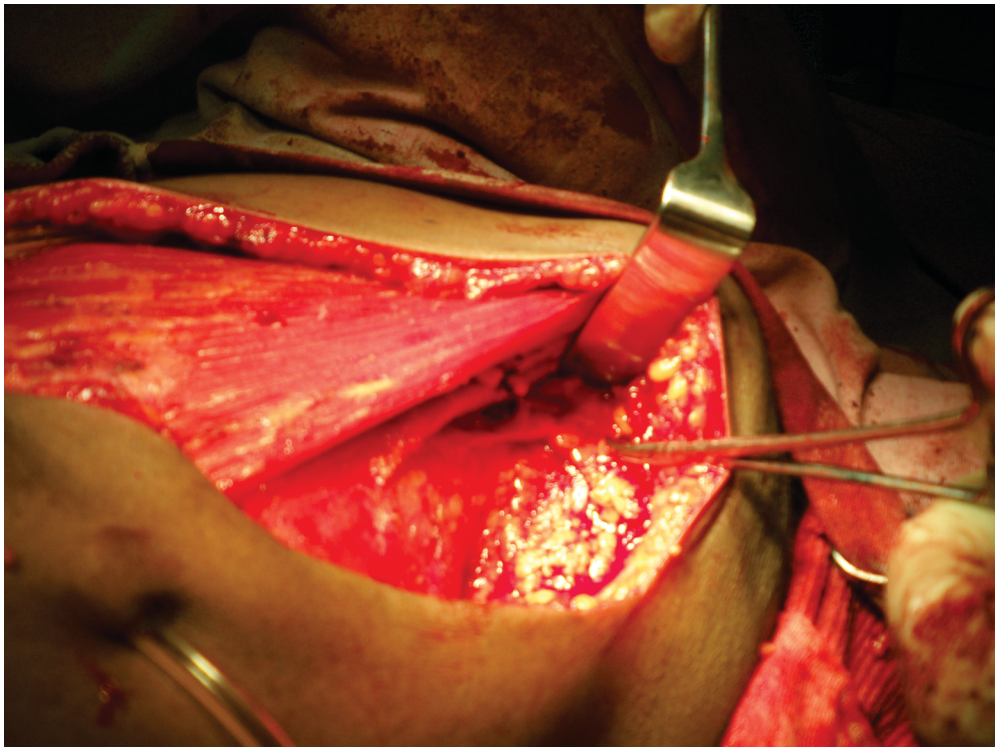
It should be done in node negative patient. Preoperative localisation of sentinel node by injecting patent blue dye and radioisotope labelled albumin around the nipple in subdermal plexes. A hand held gamma camera can identify the marker draining the primary site. If node is negative ,then no need for axillary dissection.

Modified Radical Mastectomy

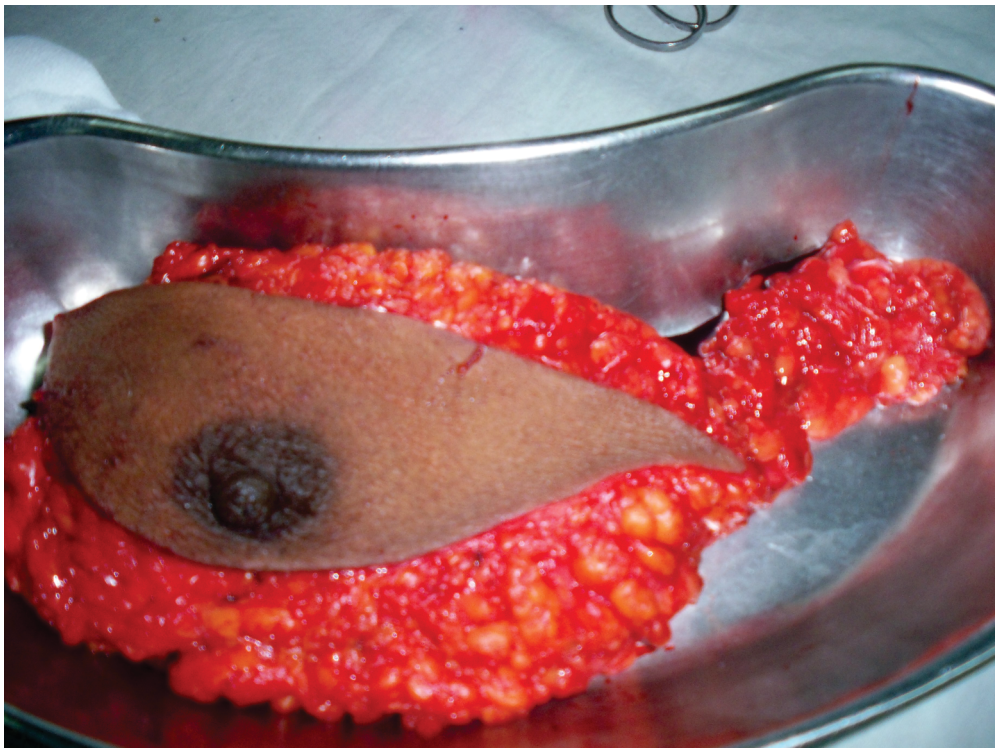
Indication- Multifocal disease, central quadrant tumour, large tumour, patient preference ,local recurrence and tumour involving nipple.

Modified Radical (Patey) mastectomy- removal of entire breast with tumour, large area of skin , nipple ,all fat, fascia,axillary lymph node. The MRM surgery extends medially from midline of sternum laterally upto

Intra operative picture - showing long thoracic nerve



Specimen of mastectomy with axilliary clearance



anterior border of latissimus dorsi muscle.Superiorly it extends from clavicle to inferiorly upto 2-3 cm inferior to inframammary fold

The structures to be preserved are axillary vein ,nerve to latissimus dorsi and serratus anterior.Pectoralis minor muscle is divided or retracted. Pectoralis major muscle is preserved.

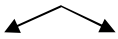
In Auchincloss type mastectomy pectoralis minor muscle is preserved.

Radiotherapy

Indication- patients with high risk of local recurrence, large tumour, many positive nodes and lymph vascular invasion.

- In patient undergoing BCS for local treatment of remaining breast tissue. Dose of 45-50 Gy of whole body irradiation as 2Gy/day ,5days /week for 5 weeks and boost to tumour bed region.

Systemic treatment



Chemotherapy Hormonal therapy

- targeted upon micro metastasis and helps in delaying relapse and increases the survival period.

Chemotherapy

It is used as adjuvant or neoadjuvant chemotherapy .An anthracyclines should included in this regimen. The regimens are 6 cycle of FAC ,CEF ,FEC and CAF.

An adjuvant chemotherapy is for patient hormone receptor negative ,size of tumour <1cm and node positive tumour ,special type of tumours with size >3cm.

In neoadjuvant chemotherapy , in case of LABC to reduce the size of tumour ,make it operable .it gives 80% success in reducing the size of tumour. It is given in both pre and post menopausal women with poor prognosis, and those are having high risk of recurrence.

The local and regional cancer burden is decreased by neoadjuvant used to evaluate the response of chemotherapy of the primary tumour and nodal metastasis. The response to treatment can give the prognosis of disease. If complete pathological response indicates good survival. If there is progression of disease it indicates poor survival.

Primary anthracycline based chemotherapy should be Included in patients with inoperable breast cancers ,and those with inflammatory breast cancer and patients with ipsilateral internal mammary or supraclavicular nodes .

Chemotherapy Regimens

1	CAF regimen Cyclophosphomide Doxorubicin 5-flurourocil	 100mg/m 1-14days PO 30mgm/m 1&8 days 500mg/m2iv 1&8 days every 28 days for 6 cycle
2	5-Flurouracil Doxorubicin Cyclophosphamide	500 mg/m2 IV 1&8 0r 1&4 days 50 mg/m IV day 1 500mg/m IV day 1 every 21 days for 6 cycles
3	AC regimen Doxorubicin Cyclophosphamide	 60 mg/m IV day1 600 mgs /m IV day 1 every 21 days for 4cycles
4	FEC regimen Cyclophosphamide Epirubicin 5-Flurouracil	 75 mg/m 1-14 days PO 6o mg/m IV 1&8 days 500 mg/m IV 1&8 days Every 28 days for 6cycle

Hormonal therapy

- it is used as an adjuvant therapy
- to reduce the risk of tumours in opposite breast

Indication

- Tumour size 1-3 cm , node negative women with HR positive.
- Tumour size >3 cm , node positive all women
- Stage IV breast cancer

Drugs

1. Tamoxifen-20mgs /day (selective estrogen receptor modulator) for 5 years in premenopausal age group. Contraindicated in postmenopausal group, because of risk of endometrial carcinoma.
2. Aromatase Inhibitors-indicated for postmenopausal age group.

Anti HER-2/neu Antibody therapy

Trastuzumab used in the treatment of HER-2/neu positive breast cancer patient .

Follow up of Breast cancer patient after surgery

1. Every 3-6 months for 3 years

2. Every 6-12 months for next 2 years and then annually

Investigation to be done

1. History regarding recurrence and metastasis

2. Physical examination, Breast self examination

3. Mammography –annually

4. Others –pelvic examination, complete blood count ,liver function test, x-ray chest , CT-chest, USG abdomen and pelvis.

MATERIALS AND METHOD

Source of data

This study is conducted in 50 patient admitted in Government Royapetah Hospital

Study design

Cross sectional prospective study

Study period

Jan 2013 to oct 2013

Inclusion criteria

1. Patient aged between 20 to 80 yrs
2. All patients with breast lump with FNAC positive report
3. Patients who belongs to clinical stage I, stage II, stage III

Exclusion criteria

1. Patients with benign breast disease
2. Cases of breast cancer in males
3. Exclude all inoperable advanced breast malignancy

4. Patients with inflammatory breast carcinomas

5. Recurrent breast lump in a previously operated case of carcinoma breast.

Sample size

- 50 patient with the mentioned above criteria
- After getting informed consent

Method of collection of data

1. Detailed history taking

2. Complete clinical examination

3. Investigation

- Routine investigation
- complete blood count
- Blood sugar ,urea , creatinine
- urine routine

Specific investigation

- USG-breast and axilla
- Mammography
- X-ray chest

- FNAC /Tru-cut biopsy
- Liver function test
- USG abdomen and pelvis
- Skeletal survey
- Electrocardiogram
- Receptor status done outside under the insurance
- Scheme

Treatment protocol

Patient with Early breast cancer underwent surgery followed by adjuvant chemotherapy, hormonal therapy and radiotherapy.

Patient with stage III disease undergoes neoadjuvant chemotherapy followed by surgery , then adjuvant chemotherapy, hormonal therapy, radiotherapy.

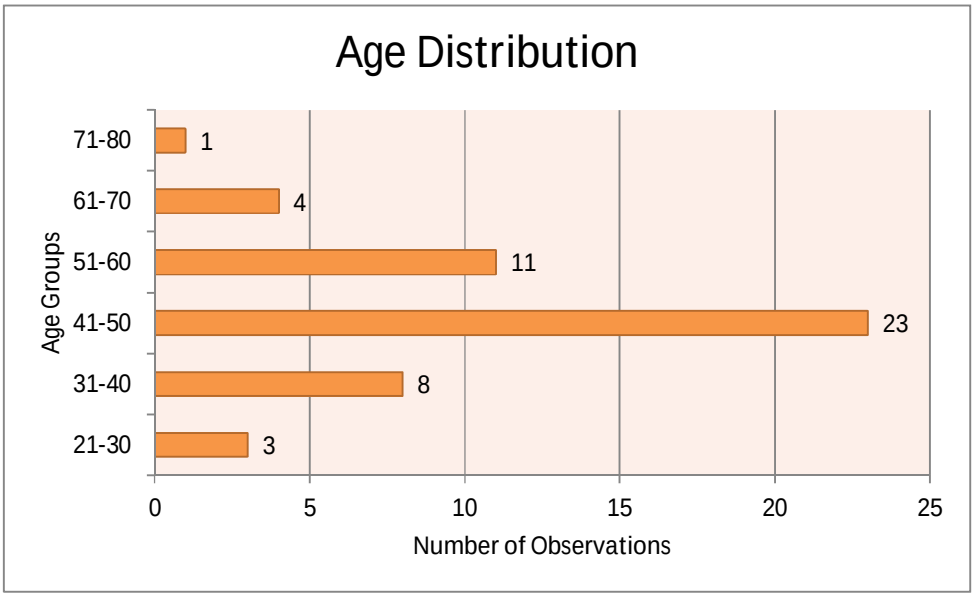
Data computation

MS Excel 2010

Data analysis

Statistical analysis using percentages and frequencies

Age Distribution

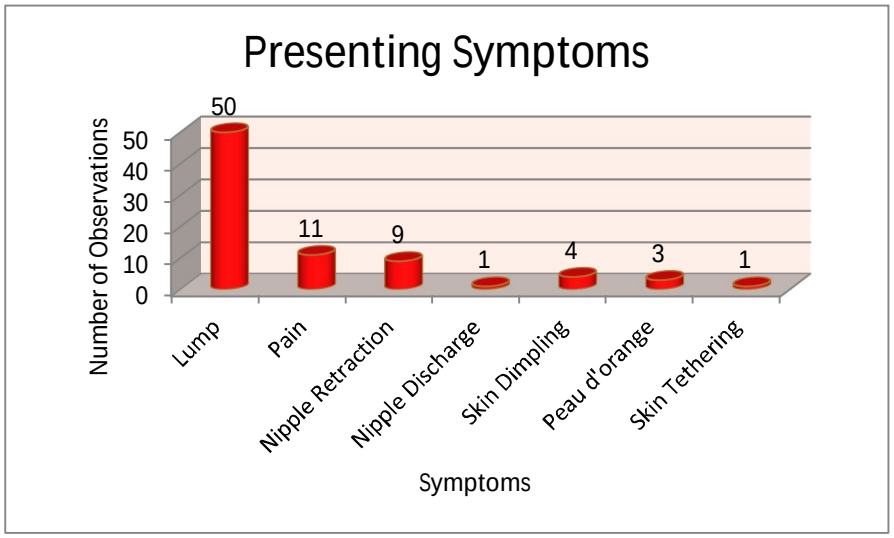


Age Class Intervals	Observations	Percentages
21-30	3	6
31-40	8	16
41-50	23	46
51-60	11	22
61-70	4	8
71-80	1	2
Total	50	100

Age	Observations
Number of Observations	50
Mean Age	48.54
Standard Deviation	10.54

The distribution of age in my study ranges people from 21 -80 years. The lowest age limit in my study is 26 and the highest age limit is 80. The mean age of presentation is 48.5 .Most of the patient belongs to 41-50 years age group.

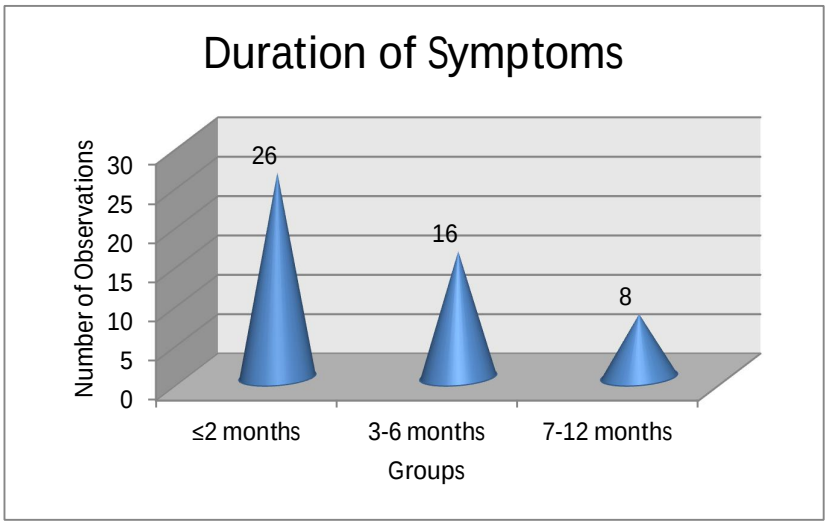
Presenting Symptoms



Age Class Intervals	Observations	Percentages
Lump	50	100
Pain	11	22
Nipple Retraction	9	18
Nipple Discharge	1	2
Skin Dimpling	4	8
Peaud'orange	3	6
Skin Tethering	1	2

Most commonest presentation in my study groups is lump (100%) present in and the next is pain (22%) about , others are nipple retraction (18%) ,nipple discharge. **Duration of Symptoms**

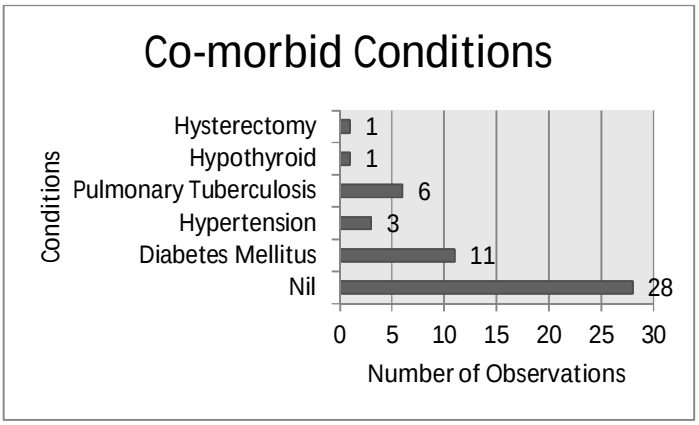
Duration of Symptoms



Duration of Symptoms	Number of Observations	Percentage
≤2 months	26	52
3-6 months	16	32
7-12 months	8	16

In my study about 26(52%) of the patients presented with duration of less than 2 months. About 16 (32%) patient presented with duration of 3-6 months and about 8(16%) of the patient

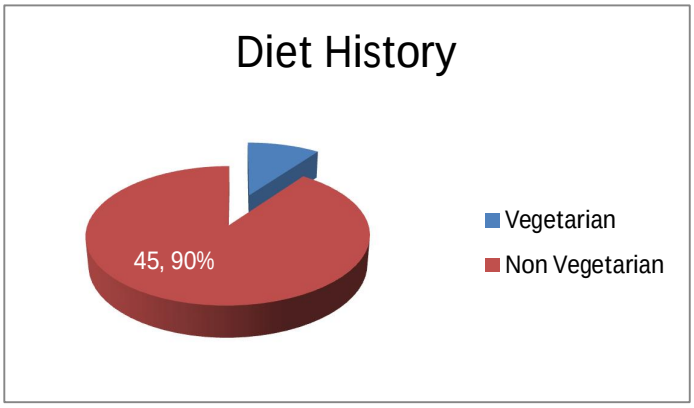
Co-morbid Conditions



Co-morbid conditions	Number of Observations	Percentage
Nil	28	56
Diabetes Mellitus	11	22
Hypertension	3	6
DM+HT	6	12
Hypothyroid	1	2
Hysterectomy	1	2
Total	50	100

In my study out of 50 patients 11(22 %) of them having DM , 3(6%) of them having HT ,and 11(22%) of patients having both DM& HT..This shows DM and HT having they are high risk factor for the development of carcinoma breast.

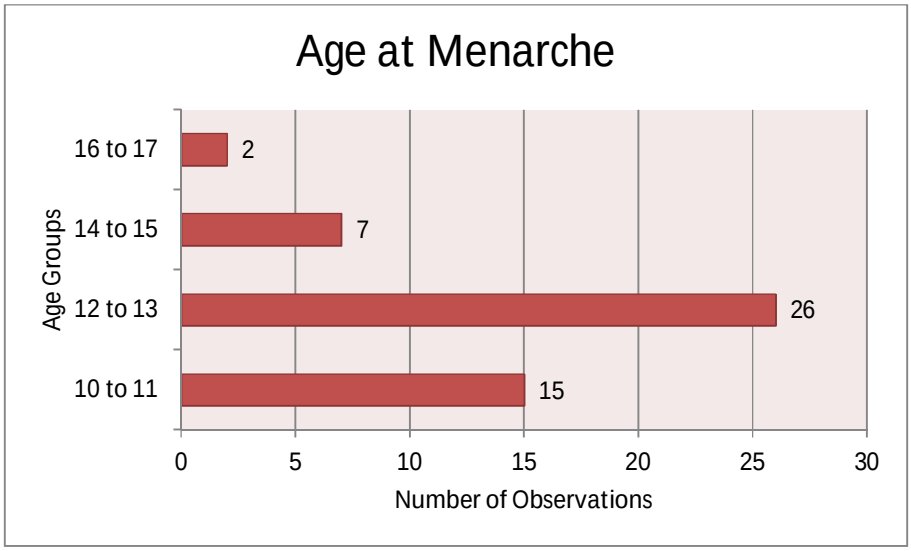
Diet History



Diet	Number of Observations	Percentage
Vegetarian	5	10
Non Vegetarian	45	90
Total	50	100

In our study people 45 (90%)of them were nonvegetarian .This shows a strong relationship between high dietary fat intake more prone for carcinoma breast **.**

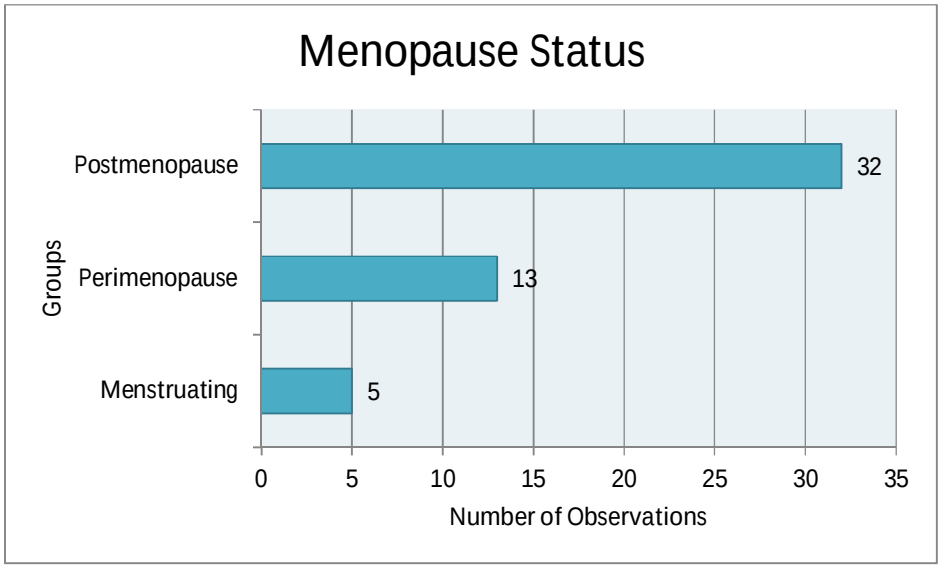
Age at Menarche



Age of menarche in Years	Number of patients	Percentage
10 to 11	15	30
12 to 13	26	52
14 to 15	7	14
16 to 17	2	4
Total	50	100

In my study the age at menarche ranges from 10 - 17 years, The lowest age of menarche is 10years and the highest age at menarche is 17 years. The mean age of menarche is 12.44.Earlier the menarche more chance of carcinoma breast.

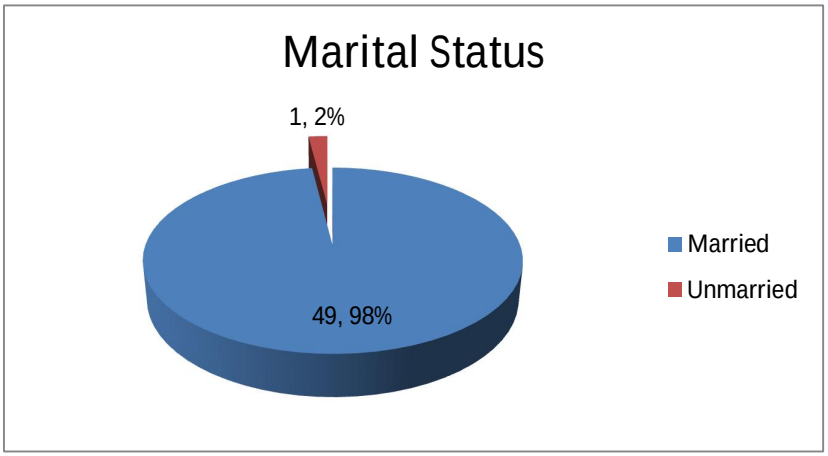
Menopause Status



Menopause Status	Number of Observations	Percentage
1	5	10
2	13	26
3	32	64
Total	50	100

Out of 50 patient 31 of them post menopausal and 19 of them perimenopausal. In this study post menopausal age group are more susceptible for carcinoma breast.

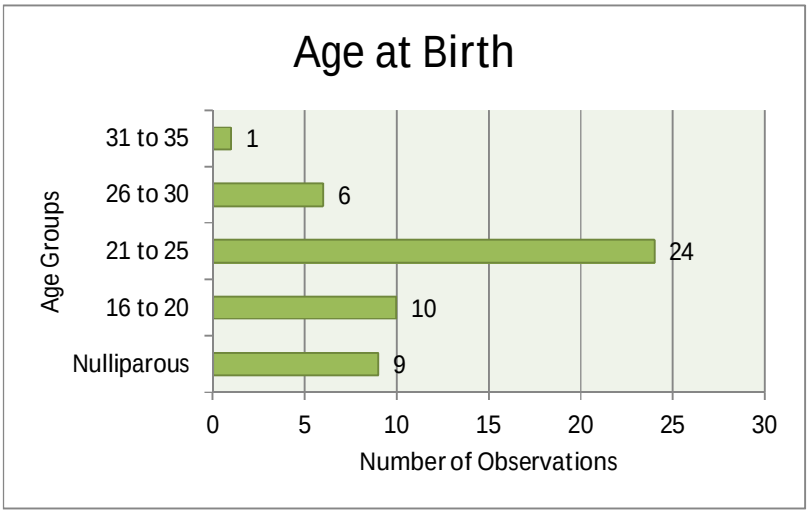
Marital Status



Marital Status	Number of Observations	Percentage
Married	49	2
Unmarried	1	98
Total	50	100

Out of 50 patient one of the patient (2%) was unmarried, remaining were married.

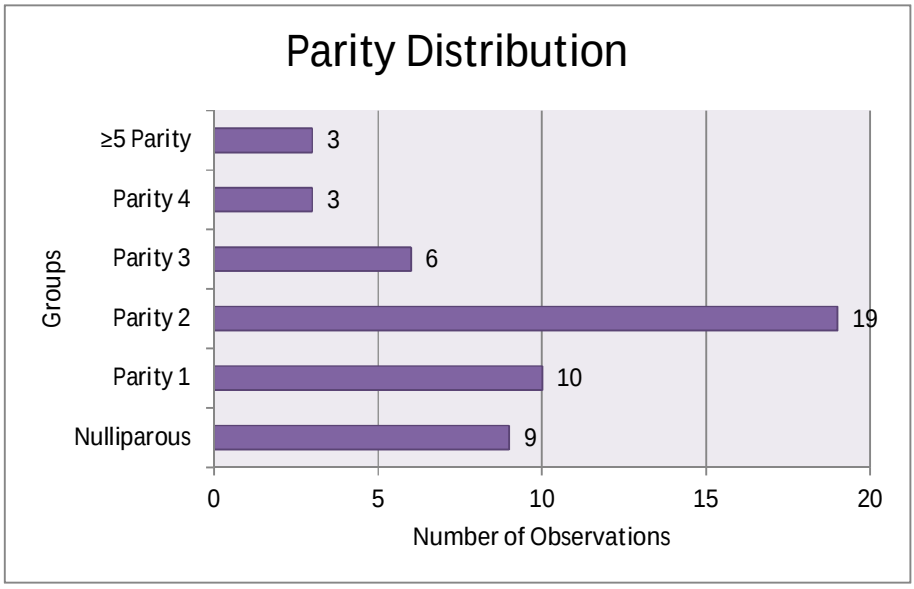
Age at First Birth



Age at First Birth	Number of Observations	Percentage
0	9	18
20	10	20
25	24	48
30	6	12
35	1	2
Total	50	100

Out of 50 patient 24 person (48%) of patient aged 25year had high incidence of carcinoma breast.

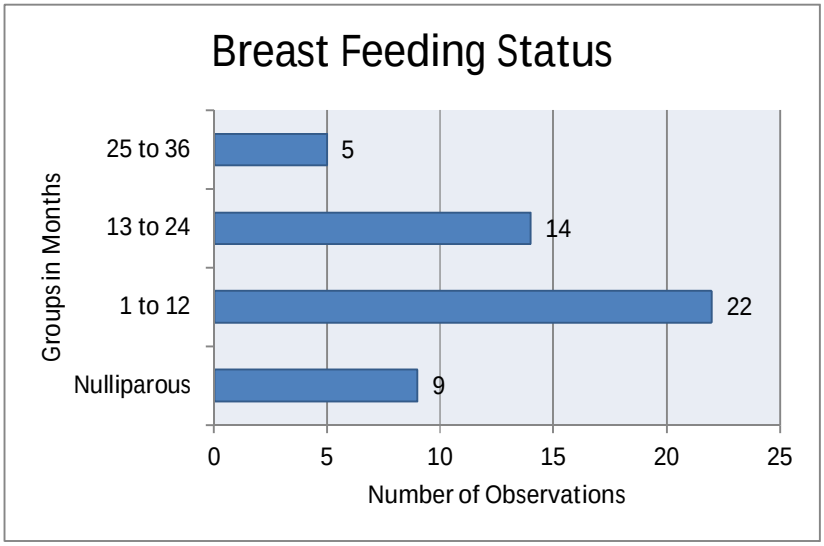
Parity



Parity	Number of Observations	Percentage
Nulliparous	9	18
Parity 1	10	20
Parity 2	19	38
Parity 3	6	12
Parity 4	3	6
≥5 Parity	3	6
Total	50	100

Out of 50 patient ,most of the patient(76%) belongs to 1 or 2 child birth. Higher the parity lesser the occurrence of carcinoma breast.

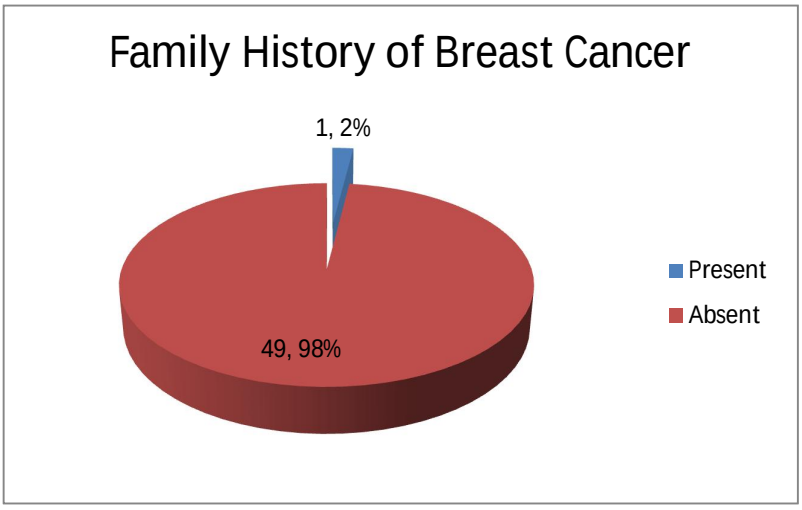
Breast Feeding



Breast Feeding in months	Number of Observations	Percentage
Nulliparous	9	18
1 to 12	22	44
13 to 24	14	28
25 to 36	5	10
Total	50	100

In my study most of the patient having 2 or more children.7 of were nulliparous and were not breast fed. Except 7 , all of the women breast fed. Most of patients are 44% bolngs to breast fed for less than 12 months

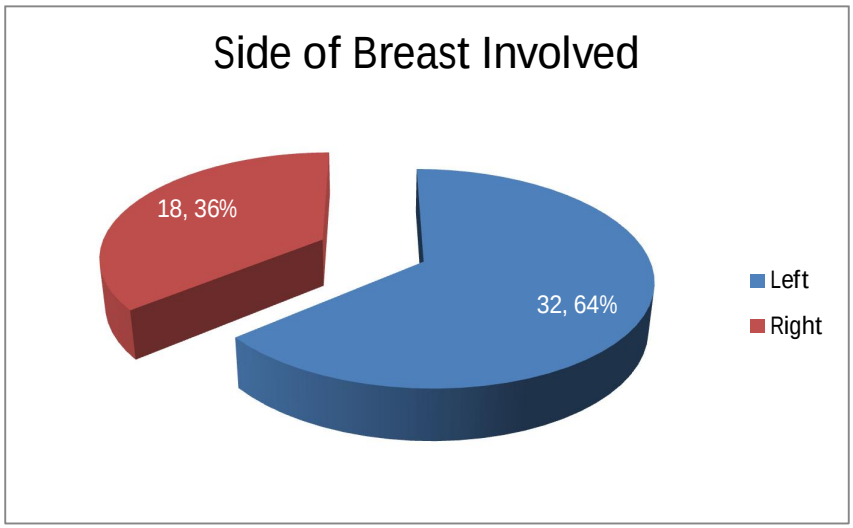
Family History of Breast Cancer



Family History of Breast Cancer	Number of Observations	Percentage
Present	1	2
Absent	49	98
Total	50	100

In my study about 2% of women having positive family history.

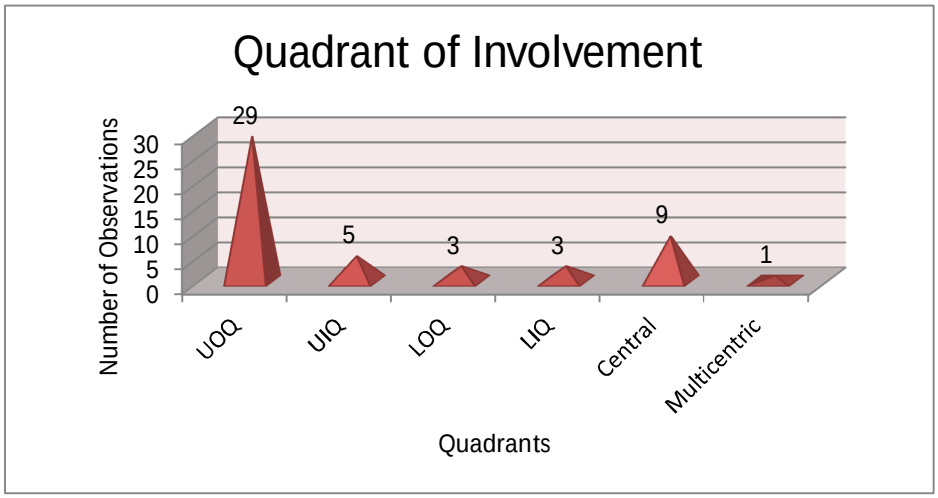
Side of Breast Involved



Side of Breast Involved	Number of Observations	Percentage
Left	32	64
Right	18	36
Total	50	100

In our study 32 patients (64%) presented with left sided cancer breast.

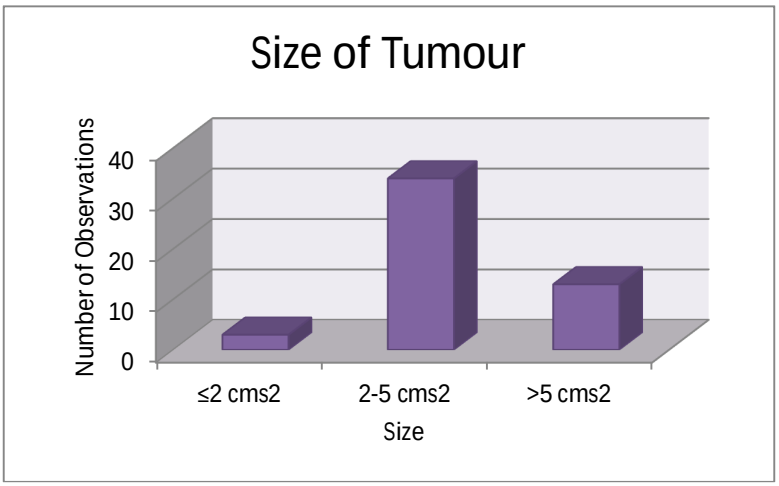
Quadrant of Involvement



Quadrant of Involvement	Number of Observations	Percentage
UOQ	29	58
UIQ	5	10
LOQ	3	6
LIQ	3	6
Central	9	18
Multicentric	1	2
Total	50	100

In our study 29 patient (58%) presented with UOQ lump, followed by central ,UIQ ,LIQ,LOQ and multicentric. Most commonest occurrence of carcinoma breast is UOQ.

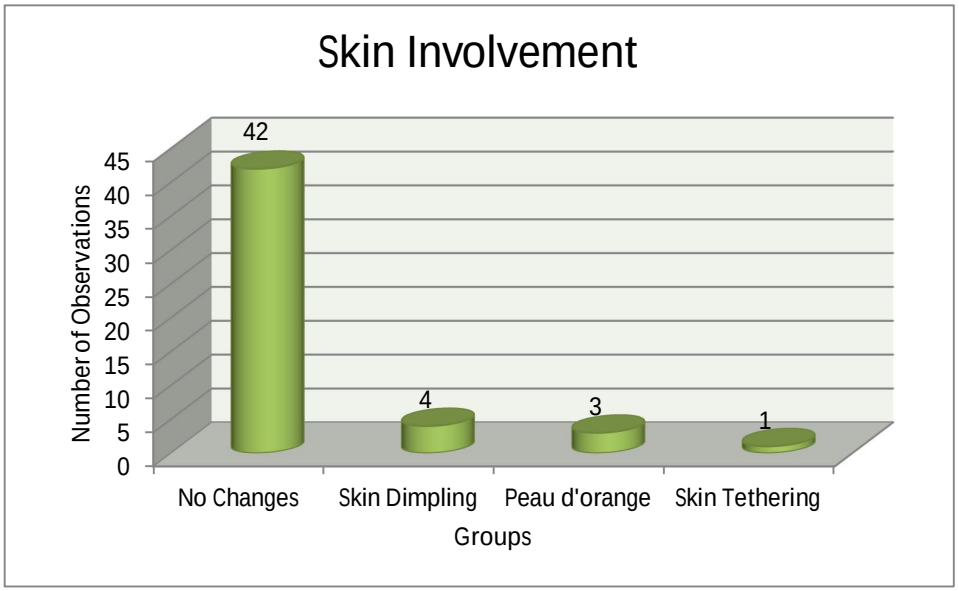
Size of Tumour



Size of Tumour	Number of Observations	Percentage
≤2 cms^2	3	6
2-5 cms^2	34	68
>5 cms^2	13	26
Total	50	100

In our study 3(6%) patient presented with less than 2cm,34(68%) presented with 2-5cm sized tumour and 13(26%) of them with >5 cm tumour.

Skin Involvement

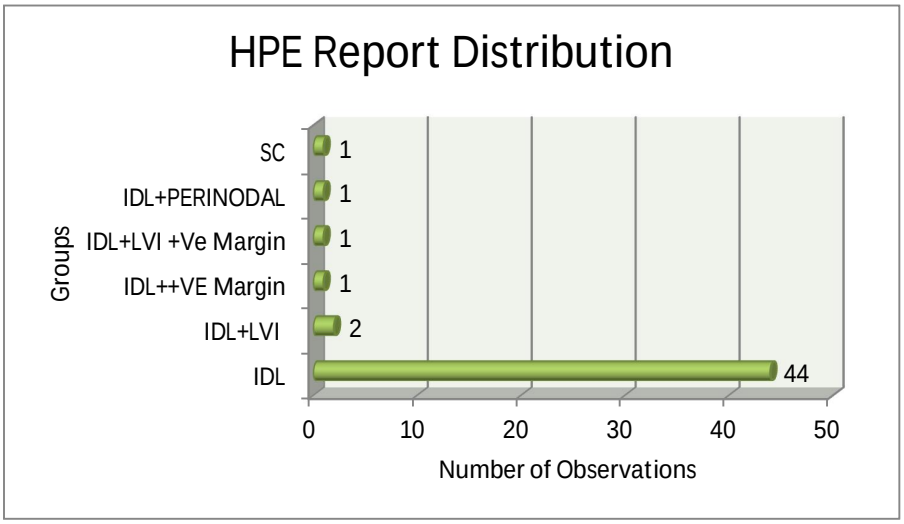


In our study 4 of them having skin dimpling, 3 of them having peau d' orange and 1 of them had skin tethering.

Lymphnode involvement	**No of observer**	**Percentage**
With LN	30	60
Without LN	20	40

30 (60%) 0f the patients had lymph node at the time of presentation.

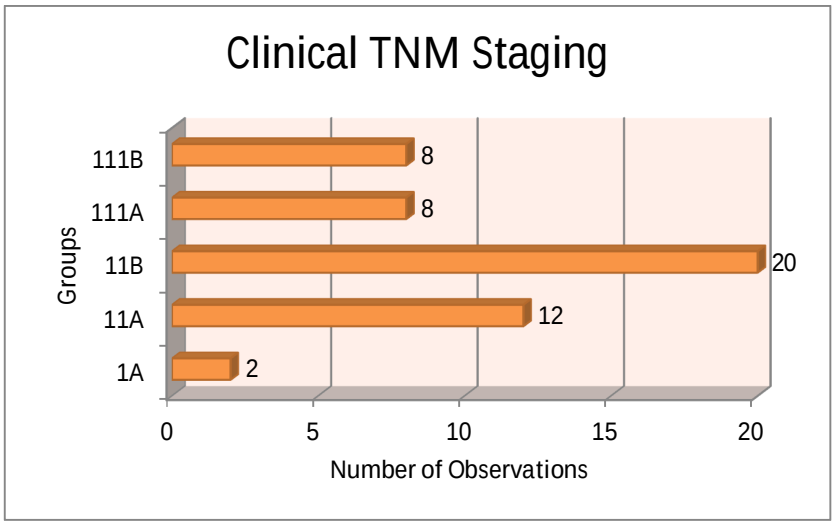
HPE Report



HPE Report	Number of Observations	Percentage
IDL	44	88
IDL+LVI	2	4
IDL++VE Margin	1	2
IDL+LVI +Ve Margin	1	2
IDL+PERINODAL	1	2
SC	1	2
Total	50	100

98% of the patients HPE report showed IDL.

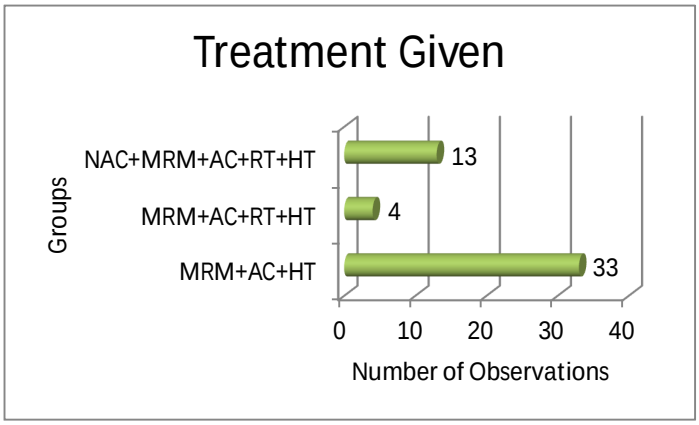
Clinical TNM Staging



Clinical TNM Staging	Number of Observations	Percentage
1A	2	4
11A	12	24
11B	20	40
111A	8	16
111B	8	16
Total	50	100

In our study 20 (40%) of the patient with stage 11B, followed by 12 (24%) with stage 11A, 8 (16%) them with 111A and 8 (16%) stage 111B and last comes stage 1A (4%).

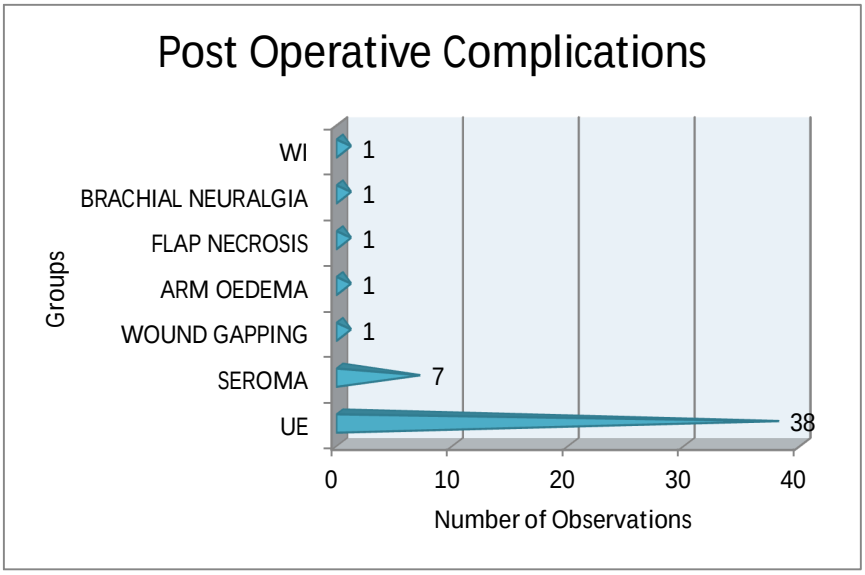
Treatment Given



Treatment Given	Number of Observations	Percentage
MRM+AC+HT	33	66
MRM+AC+RT+HT	4	8
NAC+MRM+AC+RT+HT	13	26
Total	50	100

In our study 13(26%) patient under gone NAC followed by MRM then AC,RT,HTs.33(66%) patient under gone MRM+AC+HT.4(8%) undergone MRM+AC+RT+HT.

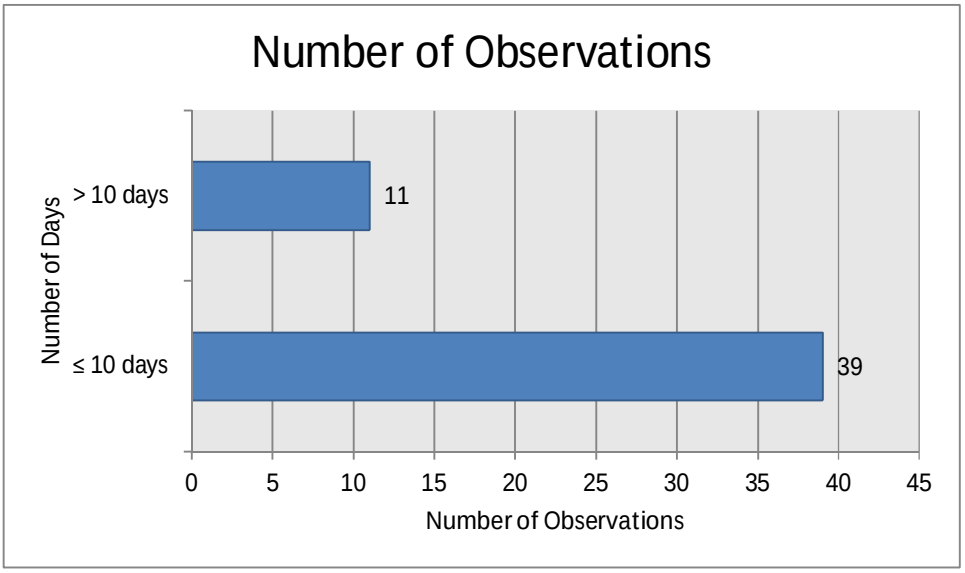
Post-Operative Complications



Post-Operative Complications	Number of Observations	Percentage
UE	38	76
SEROMA	7	14
WOUND GAPPING	1	2
ARM OEDEMA	1	2
FLAP NECROSIS	1	2
BRACHIAL NEURALGIA	1	2
WI	1	2
Total	50	100

In our study patient 7 (14%) of them had seroma, which is the most commonest post operative complication noted.

Hospital Stay



Hospital Stay	Number of Observations	Percentage
≤ 10 days	39	78
> 10 days	11	22
Total	50	100

In our study patient 39 (78%) of them stayed less than 10 days , 11 (22%) patients stayed more than 10 days.

DISCUSSION

SUMMARY & DISCUSSION WITH OTHER STUDIES

SUMMARY

1. The distribution of study population ranges from 21-80 years.

2. The most commonest presenting features in carcinoma breast is lump(100%)

3. 52% of patients presented with less than 2 months duration of symptoms.

4. In my study groups 50% of patients having DM and HT. This shows both DM and HT are high risk of cancer breast.

5. In my study the mean age of menarche is 12.49 years. This shows earlier the menarche the more chance of malignancy.

6. 32 % of the study peoples were post menopausal age group.

7. 48% of patients have first chid birth after 25 years.

8. In my study about 76% of them have 1-2 child birth. This shows lesser the parity higher the chance of malignancy.

9. About 2% of patients having positive family history.

10 . The most commonest side of involvement in my study is 64%.

11. 58% of patients presented with lump in the UOQ. This is the most commonest site of involvement in carcinoma breast.

12. 68% of presented with tumour size of 2-5 cm.

13. 60% of patient having axillary nodes at the time of presentation.

14. IDL is the most commonest histiopathological type ,it accounts for 98%.

15. In my study 40% 0f patient present with stage 11B and next comes stage 111A.

COMPARISION WITH OTHER STUDIES

	Observations in our study	Percentages	Breast Cancer-India scene – Rakesh Chopra Study	Percentages
Age Class Intervals				
21-30	3	6	24	3
31-40	8	16	136	18
41-50	23	46	246	33
51-60	11	22	195	26
61-70	4	8	111	15
71-80	1	2	40	5
Total	50	100	752	100
Clinical TNM Staging				
1A	2	4	611	18
11A	12	24	1929	56
11B	20	40		
111A	8	16	913	26
111B	8	16		
Total	50	100	3453	100
Size of Tumour				
≤2 cms^2	3	6	802	24
2-5 cms^2	34	68	2111	63
>5 cms^2	13	26	463	14
Total	50	100	3376	100
Lymph Node Status				
Absent	20	40	1625	42

PRESENT	30	60	2261	58
Total	50	100	3886	100
HPE Report				
IDL	44	88	3793	98
IDL+LVI	2	4		
IDL++VE Margin	1	2		
IDL+LVI +Ve Margin	1	2		
IDL+PERINODAL	1	2		
SC	1	2	80	2
Total	50	100	3873	100
Receptor Status Distribution				
Receptor –ve	28	56	59	47
ER-PR +ve	15	30	29	23
Her - 2 Neu +ve	7	14	37	30
Total	50	100	125	100

In my study the mean age of occurrence of operable carcinoma breast is 48.54 in comparing with the study it is about 43.8.

Peak age of occurance of carcinoma breast is 41-50 years,in our study is about 46% in comparison to study group is 33%.

Stage wise distribution of my study is stage 1 is 4%, stage 11 is 64%, stage 111 13% in comparison to other study group are stage 1 is 8%, stage11 is 56% ,stage 111 is 26%.

Regarding the size of the tumour in my study are < 2cm-6%, 2-5cm 68% and >5 cm 32% ,when compared to other study are <2 cm-8%, 2-5 cm-56%, >5 cm 26%.

Nodal status , in my study 60% of them nodal positive ,40% node negative, when compared to other study mentioned above node negative 42%, node positive 58%.

HPE report , in my study IDL accounts for 98% , when comparing to other study is about 98%.

Receptor status, in my study ER PR negative is 56% ,ERPR +ve is 30% , HER 2 neu is 14% , in comparison to other study it is about 47%, 23%, and 30%.

CONCLUSION

In my cross sectional prospective study 50 patient were subjected to study.Following conclusion were attained.

1. Carcinoma is the most commonest cancer in females next to cancer cervix.

2. Commonest age group involved are 41-50 years .Average age of occurrence is 46 years.

3. The disease is more common in those patient with early menarche.

4. Lesser the parity the chance of malignancy is more. Nulliparous women are more prone for cancer breast.

5. Painless lump is the most commonest presentation in carcinoma breast followed by pain.

6. Most commonly occurring in non vegetarian diet, those who are taking high dietary fat..

7. In my study 2% of patients having positive family history.

8. Left breast is the commonest side of involvement in cancer breast.

9. The most commonest site of ivolvement of carcinoma breast is Upper outer quadrant.

10. Most of the patient having less than 5cm at the time of diagnosis.

11. Most commonest stage of presentation in my study was stage 11 and stage 111

12. The most effective method of diagnosis in carcinoma breast is FNAC .

13. Infiltrating ductal carcinoma is the most commonest histological type.

14. Most commonest mode of treatment is multimodality management ie. Surgery , chemotherapy ,hormonal therapy and radiotherapy.

15. In our country , because of poor patient complaints and less accessibility of radiotherapy and chemotherapy, all patients were subjected to modified radical mastectomy in early breast cancer patient.

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ANNEXURES

PROFORMA

Name: **IP No:**

Age: **Address:**

Sex: **Occupation:**

DOA: **Dod:**

Presentation:

Complaints:

- Lump in the breast
- Pain
- Nipple discharge, nipple retraction
- Ulcer or nodules
- Swelling in the axilla
- Cough, Dyspnoea
- Chest pain, jaundice,
- Loss of appatite, loss of weight

Past history:

- H/o DM/ HT
- H/o OCP intake,HRT intake

Personal history

Diet

Menstural history-age at menarche ,menstrual status

Obstetric history-No of childrens,Age at first child birth

Breast feeding histroy

Family history:H/o breast cancer in families

General examination:

Local examination:

Inspection:

Examination of affected breast:

Arms by the side , arm by the side , arm raised ,bending fowards

- Breast: size, shape, swelling, position
- Skin over the breast: dilated veins ,dimpling, puckering, ulcer, nodules
- Nipple : size, shape ,retraction ,discharge, position

- Areaola: Ulcer, cracks ,fissure

Palpation:

- Site , size ,shape ,surface , temp, tenderness, ,consistency ,margins.
- Mobility:
- Fixity to skin, breast tissue , pectoralis muscle ,chest wall.
- Examination of opposite breast:
- Examination of nodes:

  Axilla, supraclavicular area
- Other system examination- CVS ,RS ,
- P/A examination,Spine and cranium, thyroid
- PV, PR

Diagnosis:

Investigation :

Routine investigation:

- Complete blood count
- Urine for sugar, protein,microscopy
- Blood-sugar ,urea , creatinine

Specific Investigation

- USG-Breast ,axilla
- Mammography
- FNAC/ Tru-cut biopsy
- USG abdomen and pelvis
- Skeletal survey
- X-ray chest
- ECG
- LFT

- Echo cardiogram
- Receptor status

Final Diagnosis:

Treatment given:

Histopathological report

Post operative condition

Follow up

MASTER CHART

S.No	Name of Patient	IP.NO	Age in Years	age at Menarche	MP Status	Past Histroy	Dietary History	Family Histroy	Marital Status	Age at first child birth	No of Children	Breast Feeding in months	Symptoms					Side	Site	Size(CM)	Chest Wall fixity	Nodal Status	FNAC	HPE Report	Receptor Status	Staging of disease				Treatment given	Operative Complica	Hospital Stay
													Lump	Duration	Pain	Nipple Involvement	Skin Involvement									Tumour	Node	Mets	Stage			0<10 days , 1>10 days
1	Thrasammal	721/12	48	13	3	1	2	1	1	21	2	24	lump	1	0	0	0	1	1	6	0	LT Axilla node,fixed	malig	IDL	ER,PR +ve	T3	N2a	M0	IIIA	NAC+MRM+AC+RT+HT	UE	0
2	Banumathy	884/12	65	12	3	1	2	0	1	18	2	12	lump	2	0	0	1	2	1	12	0	Rt Axillary	malig	IDL	HER2 +ve	T3	N1	M 0	IIIA	NAC+MRM+AC+RT+HT	UE	0
3	Sarojadevi	79/13	60	16	3	3	2	0	1	22	1	10	lump	6	0	0	0	1	5	3	0		malig	Secretory Carcinoma	0	T2	N1	M0	IIB	MRM+AC+HT	SEROMA	1
4	Vanaja	244/13	46	11	3	0	2	0	1	0	0	0	lump	2	0	0	0	2	1	4	0		malig	IDL	HER 2Ne +ve	T2	N0	M0	IIA	MRM+AC+HT	UE	0
5	Kala	986/12	42	15	2	0	2	0	1	20	2	36	lump	2	0	1	2	1	5	15	2	LT Axilla	malig	IDL	ER,PR +ve	T4b	N1	Mo	III B	NAC+MRM+AC+RT+HT	WOUNDGAPPING	1
6	Suseela	396/13	52	11	3	2	2	0	1	19	2	6	lump	1	0	1	0	1	2	4	0	LT Axilla	malig	IDL+LVI +Ve margin	ER,PR +ve	T2	N1	Mo	IIB	MRM+AC+RT+HT	UE	0
7	Shalinisalreen	591/13	65	13	3	3	2	0	1	23	5	6	lump	2	0	2	0	1	5	5	0	LT Axilla	malig	IDL		0	T2	N1	M0	IIB	MRM+AC+HT	UE	0
8	latha	6306	41	11	2	0	2	0	1	22	2	24	lump	3	0	0	0	1	1	4	0		malig	IDL		0	T2	N0	M0	IIA	MRM+AC+HT	UE	0
9	karpagam	606/13	45	13	2	3	2	0	1	25	2	12	lump	12	0	0	1	1	4	4	2		malig	IDL		0	T2	N0	M0	IIA	MRM+AC+HT	UE	0
10	panjalo	529/13	44	14	2	0	2	0	1	30	2	6	lump	6	0	0	0	1	1	5	0	Lt Axilla,mobile	malig	IDL+LVI		0	T2	N1	M0	IIB	MRM+AC+HT	UE	0
11	Saraswathy	634/13	66	15	3	0	1	0	1	26	3	36	lump	6	1	0	0	1	2	5	0		malig	IDL	ER,PR +ve	T2	N0	M0	IIA	MRM+AC+HT	ARMOEDEMA	1
12	Dilsath	721/13	40	11	3	4	2	0	1	22	2	1	lump	8	1	0	0	1	4	4	0	Lt axilla, mobile	malig	IDL+PERINODAl	HER2 +ve	T2	N1	M0	IIB	MRM+AC+RT+HT	UE	0
13	Santhi	783/13	45	12	3	1	2	0	1	21	3	12	lump	12	0	1	0	2	5	5	0		malig	IDL	HER2 +ve	T2	N0	M0	IIA	MRM+AC+HT	UE	0
14	Lakshmi	792/13	54	11	3	0	2	0	1	0	0	0	lump	0.5	0	0	0	2	5	1.5	0		malig	IDL	HER2 +ve	T1	N0	M0	IA	MRM+AC+RT+HT	UE	0
15	Geetha	985/13	39	13	2	6	2	0	1	24	2	6	lump	6	0	0	0	2	1	4	0		malig	IDL		0	T2	N0	M0	IIA	MRM+AC+HT	UE	0
16	Thulasi	1072	55	13	3	0	1	0	1	18	4	12	lump	12	0	0	0	1	1	5	0		malig	IDL	ER,PR +ve	T2	N0	M0	IIA	MRM+AC+HT	UE	0
17	Ansaribeegam	835/13	55	13	3	2	2	0	1	21	1	12	lump	1	0	0	0	1	3	5	0	Lt Axilla,mobile	malig	IDL		0	T2	N1	M0	IIB	MRM+AC+HT	SEROMA	1
18	Senthur Kani	989/13	51	12	3	2	2	0	1	29	2	6	lump	1	0	0	0	2	4	7	0	Rt Axillary,mobile	malig	IDL	ER,PR +ve	T3	N1	M0	IIIA	MRM+AC+RT+HT	FLAP NECROSIS	1
19	Bala	990/13	39	11	2	0	2	0	1	0	0	0	lump	1	0	0	0	1	1	3	0		malig	IDL		0	T2	N1	M0	IIB	MRM+AC+HT	UE	0
20	Lakshmi	1025/13	80	10	3	1	2	0	1	0	0	0	lump	2	0	0	0	1	1	4	0		malig	IDL	ER,PR +ve	T2	N0	M0	IIA	MRM+AC+HT	UE	0
21	Sholia	1088/13	25	13	1	0	2	0	1	31	2	6	lump	2	0	0	0	2	1	4	0		malig	IDL		0	T2	N0	Mo	IIA	MRM+AC+HT	UE	0
22	Kalyani	1120/13	48	14	3	0	2	0	1	25	1	24	lump	6	0	0	0	1	1	4	0	Lt Axilla,Mobile	malig	IDL + LVI		0	T2	N1	M0	IIB	MRM+AC+HT	UE	0
23	Raja Lakshmi	1145/13	36	12	1	0	2	0	1	24	3	24	lump	2	0	0	0	1	5	4	0		malig	idl		0	T2	N0	M0	IIA	MRM+AC+HT	UE	0
24	Kairunisha	1177/13	59	12	3	0	2	0	1	20	7	24	lump	3	0	0	0	1	3	3	2	Lt Axila,Mobile	malig	IDL	ER,PR +ve	T4b	N1	M0	IIIB	NAC+MRM+AC+RT	UE	0
25	Victoria	1142/13	50	13	3	0	2	0	1	18	1	24	lump	1	0	0	0	1	1	6	0		malig	IDL		0	T3	N0	M0	IIIA	MRM+AC+HT	UE	0
26	Sundari	3170	47	11	3	1	1	0	1	21	5	24	lump	1	0	0	0	1	1	5	0	Lt axilla,mobile	malig	IDL		0	T2	N1	M0	IIB	MRM+AC+HT	UE	0
27	Chinnaponnu	3780	50	12	3	0	2	0	0	0	0	0	lump	1	0	0	0	1	1	4	0	Lt axilla,mobile	malig	IDL		0	T2	N1	Mo	IIB	MRM+AC+HT	UE	0
28	Thaslim Rahamani	4067	30	12	1	3	2	0	1	0	0	0	lump	1	0	0	0	1	1	8	0	Lt axilla,mobile	malig	IDL	ER,PR +ve	T3	N2a	M0	IIIA	NAC+MRM+AC+RT+HT	UE	0
29	Atchammal	4475	55	12	3	0	2	0	1	18	3	24	lump	2	1	0	0	2	1	6	0	RT axilla,mobile	malig		HER2 +ve	T3	N1	M0	IIIA	NAC+MRM+AC+RT+HT	UE	0
30	varalakshmi	10345	37	11	1	3	2	0	1	22	2	36	lump	2	0	0	0	2	1	10	0	Rt axilla,fixed	malig	IDL	ER,PR +ve	T3	N2a	M0	IIIA	NAC+MRM+AC+RT+HT	SEROMA	1
31	Vatchala	11779	69	14	3	1	2	0	1	18	3	24	lump	3	1	1	0	1	1	6	0	Rt axilla,fixed	malig	IDL	ER,PR +ve	T4b	N2b	Mo	IIIB	NAC+MRM+AC+RT+HT	SEROMA	1
32	Narayini	12948	50	13	3	0	1	0	1	21	2	12	lump	2	0	0	0	1	3	5	0	RT axilla,mobile	malig	IDL		0	T2	N1	M0	IIB	MRM+AC+HT	UE	0
33	Ragini	12268	60	13	3	1	2	0	1	24	2	24	lump	12	1	1	2	1	1	2	1	Lt axilla,mobile	malig	IDL	ER,PR +ve	T4b	N1	M0	IIIB	NAC+MRM+AC+RT+HT	UE	0
34	Mary	13663	48	12	3	1	2	0	1	21	1	6	lump	2	1	0	0	2	5	6	0	Rt axilla,mobile	malig	IDL		0	T3	N1	M0	IIIA	MRM+AC+HT	UE	0
35	Lakshmi	13666	50	13	3	1	2	0	1	22	2	24	lump	6	0	0	3	2	1	4	1	Rt axilla,mobile	malig	IDL		0	T2	N1	M0	IIB	MRM+AC+RT	WI	0
36	Rani	14593	60	12	3	1	2	0	1	22	4	6	lump	12	1	1	2	1	5	8	1	Lt axilla,fixed	malig	IDL	ER,PR +ve	T4b	N1	M0	IIIB	NAC+MRM+AC+RT+HT	BRACHIAL NEURALGIA	1
37	Selvi	17898	48	12	3	0	2	0	1	21	3	36	lump	13	1	0	0	2	2	4	0	rt axilla,mobile	malig	IDL		0	T2	N1	M0	IIB	MRM+AC+HT	UE	0
38	Saroja	18439	50	13	3	0	2	0	1	20	1	24	lump	2	0	0	0	2	1	5	0		malig	IDL		0	T2	N0	M0	IIA	MRM+AC+HT	UE	0
39	Muniyammal	12933	50	11	3	0	2	0	1	0	0	0	lump	0.5	0	1	0	1	5	5	0	Lt axilla,mobile	malig	IDL		0	T2	N1	M0	IIB	MRM+AC+HT	UE	0
40	Sarala	6679	41	12	2	0	2	0	1	22	1	12	lump	4	0	0	1	2	1	3	1	Rt axilla,mobile	malig	IDL	HER 2Ne +ve	T4a	N2	M0	IIIB	NAC+MRM+AC+RT+HT	SEROMA	1
41	Vijaya	1355	49	11	2	0	2	0	1	20	2	12	lump	5	1	0	0	1	1	3	0		malig	IDL		0	T2	N1	Mo	IIB	MRM+AC+HT	UE	0
42	Shanthi	9889	48	14	2	1	2	0	1	21	1	12	lump	2	1	0	0	2	6	4	0	RT axilla,mobile	malig	IDL++VE Margin	ER,PR +ve	T2	N1	M0	IIB	MRM+AC+RT	SEROMA	1
43	Thangammal	2274	45	11	2	0	2	0	1	22	2	36	lump	3	0	0	0	1	1	5	0	Lt axilla, mobile	malig	IDL		0	T2	N1	M0	IIB	MRM+AC+HT	UE	0
44	Ponnammal	9917	55	15	3	0	1	0	1	0	0	0	lump	9	0	1	0	2	1	5	0	RT axilla,mobile	malig	IDL		0	T2	N1	M0	IIB	MRM+AC+HT	UE	0
45	Padmavathy	394	48	11	2	3	2	0	1	26	1	12	lump	6	0	0	0	1	1	8	0	RT axilla,mobile	malig	IDL	ER,PR +ve	T3	N1	M0	IIIB	NAC+MRM+AC+HT	UE	0
46	selvi	21228	41	11	3	0	2	0	1	0	0	0	lump	4	0	0	0	1	1	2	0		malig	IDL		0	T1	N0	M0	I	MRM+AC+HT	UE	0
47	Dharani	22855	40	17	3	0	2	0	1	22	2	24	lump	2	0	0	0	1	2	5	0	LT axill,mobile	malig	IDL		0	T2	N1	MO	IIB	MRM+AC+HT	UE	0
48	Sumathy	4307	40	11	2	0	2	0	1	24	4	24	lump	4	0	0	0	1	1	3	0		malig	IDL		0	T2	N1	M0	IIB	MRM+AC+HT	SEROMA	1
49	sahayamari	1204	40	12	2	0	2	0	1	26	2	3	lump	4	1	1	1	2	2	6	1	RT axilla,modile	malig	IDL		0	T4b	N1	M0	IIIB	NAC+MRM+AC+RT	UE	0
50	sudha	5552	26	12	1	0	2	0	1	27	1	12	lump	1	0	0	0	2	1	4	0		malig	IDL		0	T2	N0	MO	IIA	MRM+AC+HT	UE	0

1.size of tumour -<2, 2-5 ,>5cm
2.site- UOQ , UIQ ,LOQ ,LIQ, CENTRAL , MULTICENTRIC
3.Side -rt, lt
4.symptoms- lump, pain ,nipple retraction ,nipple discharge
5.Skin involvement- dimpling ,peaud' orange, skin tethering
6.duration of symptoms-< 2 months, 2-6 months ,7-12 months >1year

A clinico-pathological prospective study of o...

By 22111101 . M.s. General Surgery AHILA MUTHUSELVI M . MUTHU

ABBREVATION BI-RADS-Breast Imaging Reporting and data systemic BCT-Breast Conservation Surgery FNAC-Fine Needle Aspiration Cytology DCIS-Ductal carcinoma Insitu LCIS-Lobular Carcinoma Insitu MRM-Modified Radical Mastectomy MRI- Magnetic Resonance Imaging PET- Positron Emission Tomography RT-Radiotherapy SLNB- Sentinel Lymph Node Biopsy USG-Ultrasound HT – Hormonal therapy CONTENT SI

1

Bibliography 10 Annexure .no ABSTRACT Introduction Cancer breast is the leading cause of site specific cancer related death next to cancer cervix for women aged 20-59 years. Early diagnosis and treatment will reduce the morbidity and mortality of the disease and thus it prolongs the s urvival of the patient .The patient clinically presented in the late stage of disease , due to the lack of knowledge and the ignorance of the patient. Now due to the routine screening mammography in women done after 50 years ,it reduces the mortality 0f about 33%.By self breast examination 5 0-75 % of cancer can be detected easily. I made an attempt to study about operable carcinoma breast in various aspects. Aim and objectives To study the various type of clinical and pathological patterns of presentation of operable carcinoma breast in Government Hospital . To decide the institutional treatment protocol and to

KEYS TO MASTER CHART

MP	-	Menopausal status
Lt	-	Left
RT	-	Right
IDL	-	Infilterating Ductal Carcinoma
ER	-	Estrogen receptor
PR	-	Progesterone receptor
NAC	-	Neo adjuvant chemotherapy
MRM	-	Modified Radical Mastectomy
AC	-	Adjuvant chemotherapy
RT	-	Radiotherapy
HT	-	Hormonal therapy
UE	-	Un-event full

சுய ஒப்புதல் படிவம்

A – CLINICO - PATHOLOGICAL PROSPECTIVE STUDY OF OPERABLE CARCINOMA BREAST IN OUR INSTITUTION

ஆராய்ச்சி நிலையம் : பொது அறுவை சிகிச்சை துறை
கீழ்ப்பாக்கம், மருத்துவக் கல்லூரி
சென்னை - 600 010.

பங்கு பெறுபவரின் பெயர் : வயது :

பங்கு பெறுபவரின் எண். :

பங்கு பெறுபவர் இதனை (✓) குறிக்கவும்

மேலே குறிப்பிட்டுள்ள மருத்துவ ஆய்வின் விவரங்கள் எனக்கு விளக்கப்பட்டது. எனது சந்தேகங்களை கேட்கவும், அதற்கான தகுந்த விளக்கங்களைப் பெறவும் வாய்ப்பளிக்கப்பட்டது. ☐

நான் இவ்வாய்வில் தன்னிச்சையாகத்தான் பங்கேற்கிறேன். எந்தக் காரணத்தினாலோ எந்தக் கட்டத்திலும் எந்த சட்ட சிக்கலுக்கும் உட்படாமல் நான் இவ்வாய்வில் இருந்து விலகிக் கொள்ளலாம் என்று அறிந்து கொண்டேன். ☐

இந்த ஆய்வு சம்மந்தமாகவோ, இதைச் சார்ந்த மேலும் ஆய்வு மேற்கொள்ளும்போது இந்த ஆய்வில் பங்குபெறும் மருத்துவர் என்னுடைய மருத்துவ அறிக்கைகளைப் பார்ப்பதற்கு என் அனுமதி தேவையில்லை என அறிந்து கொள்கிறேன். நான் ஆய்வில் இருந்து விலகிக் கொண்டாலும் இது பொருந்தும் என அறிகிறேன். ☐

இந்த ஆய்வின் மூலம் கிடைக்கும் தகவல்களையும், பரிசோதனை முடிவுகளையும் மற்றும் சிகிச்சை தொடர்பான முடிவுகளையும் மருத்துவர் மேற்கொள்ளும் ஆய்வில் பயன்படுத்திக் கொள்ளவும் அதைப் பிரசுரிக்கவும் என் முழு மனதுடன் சம்மதிக்கிறேன். ☐

இந்த ஆய்வில் பங்கு கொள்ள ஒப்புக்கொள்கிறேன். எனக்குக் கூறப்பட்ட அறிவுரைகளின்படி நடந்து கொள்வதுடன், இந்த ஆய்வை மேற்கொள்ளும் மருத்துவ அணிக்கு உண்மையுடன் இருப்பேன் என்றும் உறுதியளிக்கிறேன். என் உடல் நலம் பாதிக்கப்பட்டாலோ அல்லது எதிர்பாராத நோய்க்குறி தென்பட்டாலோ உடனே அதை மருத்துவ அணியிடம் தெரிவிப்பேன் என உறுதி அளிக்கிறேன். ☐

பங்கேற்பவரின் கையொப்பம்..... இடம்..... தேதி
கட்டைவிரல் ரேகை

பங்கேற்பவரின் பெயர் மற்றும் விலாசம்.....

ஆய்வாளரின் கையொப்பம்..... இடம்..... தேதி

ஆய்வாளரின் பெயர்.....

INSTITUTIONAL ETHICAL COMMITTEE
GOVT.KILPAUK MEDICAL COLLEGE,
CHENNAI-10
Ref.No.5614/ME-1/Ethics/2013 Dt:04.07.2013
CERTIFICATE OF APPROVAL

The Institutional Ethical Committee of Govt. Kilpauk Medical College, Chennai reviewed and discussed the application for approval "A clinic-pathological prospective study of operable carcinoma breast in our institution" - For Research Work submitted by Dr.M.Ahila Muthuselvi, MS (GS), PG Student, KMC, Chennai.

The Proposal is APPROVED.

The Institutional Ethical Committee expects to be informed about the progress of the study any Adverse Drug Reaction Occurring in the Course of the study any change in the protocol and patient information /informed consent and asks to be provided a copy of the final report.

GOVT. KILPAUK MEDICAL COLLEGE
09 OCT 2013
Kilpauk, Chennai-10.

9/10/13.

CHAIRMAN,
Ethical Committee
Govt.Kilpauk Medical College,
Chennai